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1927 SESSION CALIFORNIA MEDICAL ASSOCIATION, LOS ANGELES, APRIL 25-28

Medical Lib.

CALIFORNIA AND WESTERN MEDICINE

OWNED AND PUBLISHED BY THE CALIFORNIA MEDICAL ASSOCIATION

Accredited representative of the California, Nevada and Utah Medical Associations

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VOLUME XXV NOVEMBER, 1926 No. 5

ACUTE LEUKEMIA AND AGRANULOCYTIC ANGINA ASSOCIATED WITH OR FOLLOWING THE REMOVAL OF TEETH

REPORT OF FOUR CASES

By HAROLD P. HILL *

THE following case reports evidence direct association of certain mouth infections with the extraction of teeth. The blood pictures are the outstanding features and, together with their associated clinical manifestations, will be made the subject of comment.

CASE I—Mr. C. D. B., age 68. Occupation, capitalist. Family history: One blood relative had died of pernicious anemia. In the preceding years the patient's complaints had been principally gastrointestinal, and had been due to gall stones. At these times he had complained of feeling "toxic." A physical examination made one month previous to the extraction of teeth was essentially negative. The blood count, taken one year previously, showed hemoglobin, 80 per cent; red cells, 5,200,000; leucocytes, 10,200. An x-ray of his teeth taken two years before disclosed apical abscesses of two inferior left molars. Because the patient considered the teeth might have some influence on the "toxic" spells, the dentist finally persuaded him to have them extracted. This was done on July 13, 1923. No difficulty was experienced in the extraction. Three days after he felt ill with chilly sensations, prostration, and temperature. There was some swelling and tenderness of the left submaxillary glands. The area of teeth extraction was swollen and bluish and showed no tendency toward healing. A bloody purulent discharge was present. Physical examination was otherwise negative. There was no general adenopathy or splenic enlargement. The patient was decidedly toxic. The leucocytes were 90,000. The urine had a trace of albumin. On the following day the leucocytes were 102,000. Of these 99 per cent were mononuclear cells and 1 per cent polymorphonuclear cells. The number of leucocytes progressively increased to 366,000, with mononuclear cells nearly 100 per cent. The clinical course of the disease was marked by a profound toxemia, fever, prostration, and delirium. The tissue in the region of the extracted teeth became gangrenous with a foul-smelling discharge. A purpuric rash developed over the body and extremities. Anemia was marked. General adenopathy was never present nor was the spleen palpable. A terminal bronchopneumonia developed. His temperature ranged from 100 to 107.5. Pulse 70 to 140, respiration 20 to 40. The blood culture was negative. Death occurred July 24. Duration of the illness, nine days. A complete autopsy was made. Clinical and pathological diagnosis, acute leukemia, myelogenic. (Complete blood counts are shown in Table I.)

In Tables I and II the term mononuclear refers to cells with a single nucleus, and no attempt is made to classify the cells. In the beginning the average cell was of medium size, changing to a predominating large cell as the disease progressed. A descriptive differential count was made by Dr. William Ophuls on July 21 as follows: large cells with large, deeply staining nucleus and narrow rim of pale-blue protoplasm in which there are few neutrophilic granules (primitive myelocytes), 89 per cent; larger cells with more protoplasm of similar appearance and large nucleus showing coarse chromatin fibers (probably same cells as 1 in process of division, 5 per cent; large lymphocytes, 2 per cent; small lymphocytes, 1 per cent; polymorphonuclear neutrophiles, 3 per cent; no eosinophile cells seen. Many micro and poikilocytes, no macrocytes, *no* nucleated reds seen. No bacteria seen.

Autopsy revealed the absence of any enlargement of the lymphnodes. The spleen was of normal size and grossly of normal appearance. The liver was slightly enlarged. Many primitive myelocytes were found in the splenic pulp, also in the sinusoids and in the periportal connective tissue of the liver. The bone marrow was of a grayish brown color and contained enormous numbers of primitive myelocytes with very delicate pale-blue protoplasm in which there were many extremely fine neutrophilic granules. The number of fully developed neutrophilic cells was very small and no eosinophilic cells were found at all. In spite of careful search of specimens stained intensely with Giemsa's stain, no bacteria were discovered in smears of the marrow. The findings clearly establish the diagnosis, "acute myelocytic leukemia."

Case Comment—It is unfortunate that a blood count was not made just before the extraction of the teeth. The patient was in usual good health. The sudden onset, course, type of cells, lack of general adenopathy and splenic enlargement is strongly against a pre-existing leukemia. The clinical course of the disease was not different from that of an acute severe infection due to pyogenic organisms, the blood picture was the principal differential factor. There was a marked anemia of the secondary type and a hemorrhagic diathesis. The blood culture was negative, and smears and culture of the bone marrow

* **Harold Phillips Hill** (501 Fitzhugh Building, San Francisco). M. D. University of California, 1901; A. B. Stanford, 1898. Present hospital connections: Chief of staff, St. Luke's Hospital; chief medical wards, Stanford Service; San Francisco Hospital. Present appointments: Clinical professor of medicine, Stanford Medical School. Practice limited to Medicine.

were negative for organisms. The pathological findings were those of a myelogenic leukemia.

CASE II—Mrs. W. F. R., age 35. Seen in consultation with Dr. P. A. Bill, March 7, 1925.

The past history was negative. She had been a strong active housewife. Three weeks previous to consulting Doctor Bill she had had a right inferior bicuspid or molar extracted. This was followed by pain in the jaw and ear of that side. The gums continued to bother the patient, and after three weeks the gums, throat, and cervical glands became so swollen and painful that she consulted her physician. At this time she had a grayish exudate over the gums and tonsils. A smear taken showed a large number of Vincent's angina organisms. She was given local treatment and a small dose of neosalvarsan. In spite of treatment the local and constitutional symptoms increased and she was sent to Saint Luke's Hospital.

On physical examination the patient was found to be markedly toxic and delirious. The temperature was 103. Pulse, 100. Respiration, 20. The tonsils and gums were covered with a grayish foul-smelling exudate. The area of

TABLE I

Date	Hb.	R.B.C.	W.B.C.	Polys.	Mono.
April 4, 1922	80	5,200,000	10,200		
July 16, 1923			90,000		
July 17, 1923			102,500	1	99
July 18, 1923	47	2,715,000	142,000	1	99
July 19, 1923			180,000	1	99
July 20, 1923	41	2,850,000	218,000		100
July 21, 1923			286,000	3	99
July 22, 1923	43	2,460,000	248,000	½	99½
July 24, 1923			366,000		100

the extracted tooth was still unhealed. The cervical glands of both sides were greatly swollen and tender. There was no marked enlargement of other glands. The spleen was not palpable.

The leucocyte count on entrance to the hospital was 41,000. Polymorphonuclear cells 12 per cent, mononuclear cells 88 per cent. The number of white cells increased progressively to 245,000. Polymorphonuclear cells 4 per cent, mononuclear cells 96 per cent. The predominant mononuclear was the large-sized cell as described in Case I. Complete blood counts are given in Table II.

The clinical course was that of a marked toxemia with high temperature, delirium, and hemorrhage from the gums, bowels, and stomach. A marked purpuric rash developed over the body and extremities. There was pronounced anemia. The duration of the disease in the hospital was six days and about two weeks from the time of onset. Blood cultures were negative. The urine showed a trace of albumin; no casts. Smears from the gums and throat showed a large number of Vincent's spirillae and fusiform rods mixed with other organisms. Throat cultures gave a gram positive diplococci in chains. The patient died March 12. Diagnosis: acute leukemia—myelogenic.

TABLE II

Date	Hb.	R.B.C.	W.B.C.	Polys.	Mono.	Eosin
March 6, 1925	55	3,900,000	41,000	12	88	
March 8, 1925		4,000,000	75,000	4	96	
March 9, 1925			95,000	3	96	1
March 10, 1925			104,000	1	99	
March 11, 1925			151,000	3	97	
March 12, 1925	45	3,150,000	245,000	4	96	

Case Comment—This was a parallel to Case I, with an added extensive Vincent's infection of the throat and mouth. The clinical course and blood pictures were practically identical. In both we have the association of an acute infection with a rapidly developing toxic state and the blood picture of acute leukemia. There is an increasing tendency to consider acute leukemia of infectious origin, and it is suggested that Cases I and II of this series seem to substantiate this point of view and to have been associated with infection following the extraction of teeth.

CASE III—Mrs. McC. K., age 46. Referred October 6 for a sciatica of nine months duration. The usual sites for focal infections had been carefully investigated and had been found negative. The x-ray of the teeth was negative for apical infection. There were two impacted lower molars. One infected tooth had been removed two years previously.

Examination on October 6 showed a healthy-looking woman of middle age, sciatic pain the principal complaint. Apart from a moderate hypertension, colonic tenderness and a typical mucous colitis stool, the findings were essentially negative. The blood count at this time showed: hemoglobin, 80 per cent; red blood count, 4,400,000; white blood count, 9.050; polymorphonuclears, 57 per cent; lymphocytes, 43 per cent. The patient improved on rest, diet, and sacroiliac support.

The dentist advised the removal of the impacted molars. The teeth were removed November 17, 1925. There was considerable difficulty in removing the teeth, with resulting trauma and injury to nerves. She subsequently complained of numbness of the face and the right side of the tongue, with stiffness and soreness of the neck muscles. Six days following the extraction a hemorrhage occurred from the right tooth socket, and this was followed by an increasing complaint of soreness of the neck and of some difficulty in swallowing. Three days after there was a rise in temperature to 100 degrees F. The leucocyte count taken at this time was 2000. Lymphocytes, 96 per cent. Transitionals, 4 per cent.

On physical examination the neck was moderately swollen. No glands were palpable. There was no exudate on the gums or throat. The mucous membrane at the sites of operation looked fairly normal, but there had been no tendency toward healing and by separating the edges of the incision the tissue surrounding the cavities was seen to be necrotic. Otherwise the physical examination was negative.

The disease ran a toxic course accompanied by an irregular temperature and increased pulse rate. There was no marked delirium, but there was toward the end a marked euphoria. The tissue within the tooth cavities became gangrenous, and the breath had the sweetish, foul odor of gangrene. A small patch of exudate developed on the left tonsil. This may have possibly been an extension of the gangrenous process backward from the left tooth socket. A few vesicles were seen on the hard palate. Icterus developed of a brilliant orange hue, with slight enlargement of the liver and normal-colored stools. There was retention of urine necessitating catherization. She complained of hemorrhoids, but no rectal exudate or ulcers were observed. The vulva became red and swollen and a gangrenous bulla developed on the right labium. No petechia, purpura, adenopathy or enlargement of the spleen were present at any time. The total leucocyte count progressively dropped to 200 cells. Lymphocytes, 100 per cent. Complete blood counts are given in Table III. The temperature ranged from 99 to 104. Pulse from 108 to 126. Respiration from 20 to 26. Terminal postbasal rales occurred with increase in respiration to 48.

Smears from the teeth cavities and tonsils showed the organisms of Vincent's angina mixed with numerous streptococci. Cultures showed a mixed growth of non-

TABLE III

	Hb.	R.B.C.	W.B.C.	Polys.	Lymph.	Trans.	Myel.	Platelets
October 8, 1925	80	4,400,000	9,050	57	43			
November 30, 1925			2,000	0	96	4		
December 1, 1925			3,600	0	94		6	487,000
December 2, 1925			2,200	0	96		4	
December 3, 1925			800	0	96		4	
December 4, 1925			820	0	96		4	
December 5, 1925	60	3,800,000	500	0	100			
December 6, 1925			400	0	100			
December 7, 1925		3,630,000	300	0	100			
December 8, 1925			200	0	100			
December 10, 1925			400	0	100			

TABLE IV

Date	Hb.	R.B.C.	W.B.C.	Polys.	Lymph.	Lg. Mono.	Trans.	Eosin	Platelets
1- 1-26	70	3,800,000	6,600	77	23				
1-11-26			3,600	3	97				
1-12-26	67-70	3,400,000	3,600	2	92	4	2		
1-14-26		3,400,000	2,800	5	89	2	4		
1-15-26	55	3,420,000	4,000	13	69	7	11		10,000
1-16-26			4,000	36	53	2	9		10,000
1-18-26		3,750,000	14,000	38	58	2		2	10,000
1-19-26			19,000	60	38			2	20,000
1-20-26			29,400	70	28			2	30,000
1-21-26			20,000	70	28			2	30,000
1-22-26			21,200	87	12			1	150,000
1-23-26			15,000	73	25			2	
1-24-26	54	4,100,000	9,600	70	27	2		1	150,000
1-25-26	60	4,000,000	15,000	77	23				150,000
1-26-26			10,000	68	30	2			180,000
1-27-26			9,800	76	24				
1-28-26			11,000	72	26	2			
1-29-26			8,000	66	34				200,000
2- 5-26	60	4,700,000	7,200	53	43	4			
2-12-26	70	4,640,000	8,600	55	43	2			

hemolytic streptococci and staphylococci albus and a moderate number of colon bacilli. No bacillus pyocyaneous was found.

Death occurred December 12, 1925. Duration of the disease, fifteen days from the onset of the fever and twenty-five days following the extraction of the teeth. Diagnosis: Agranulocytic angina.

Case Comment—There have been recently a few cases reported of a disease termed agranulocytic angina or agranulocytosis. In this case the sex, age, clinical picture, icterus, blood findings and fatal issue were characteristic of the disease as described. Previous cases reported have been associated with an ulcerative angina. In our case there was a slight exudate on one tonsil and a few small vesicles on the hard palate, otherwise the lesions were confined to the cavities of the extracted teeth and consisted of shreddy, necrotic gangrenous tissue. In the blood count will be noted the slight reduction of red cells and of the hemoglobin with a marked reduction of all types of leucocytes, reaching a low level of 200 cells, with an entire absence of the granular cells. The blood count was normal just previous to extraction. The teeth extracted were vital teeth. There was no apical infection.

Case IV—Mrs. B. A. Seen by courtesy of Doctor Ausbaugh. The patient entered the hospital with a complaint of mental exhaustion. There was a history of recent extensive herpes zoster. The physical examination was essentially negative. The hemoglobin was 70 per cent. Red blood count, 3,800,000. White blood count, 6600. Polymorphonuclear cells, 77 per cent. Lymphocytes, 23 per cent. Eight teeth were found infected and were removed. The removed molars were carious and there was marked infection around the corona of all the extracted teeth.

Following the removal of the teeth, the patient developed a fever and a mildly toxic state. Her gums, particularly along the line of extraction, were covered with a grayish exudate giving a slight gangrenous odor to the breath. The tonsils were enlarged and a few small white patches were seen on the left tonsil. The vagina and rectum were normal. There was no swelling of the lymphatic glands and the spleen was not palpable. There was a slight yellow tint to the skin. She had no anemia. Temperature 104. Pulse 120. Respiration 28. The blood count showed: 3600 leucocytes; polymorphonuclear cells, 3 per cent; lymphocytes, 97 per cent. The blood picture varied considerably, as shown in Table IV. Blood cultures, Widal and Wassermann, were negative. The temperature fell to normal and the blood count, after a high polymorphonuclear leucocytosis, became normal. The patient recovered.

Case Comment—The blood count before extraction was normal. Soon after extraction the clinical and blood pictures were comparable to Case III of agranulocytic angina. There was an exudate on the gums, particularly along the line of extracted teeth, fever, toxemia, slight icterus, and a leucocyte count reaching a low point of 2000 with 89 per cent lymphocytes and 5 per cent granular cells. The leucocyte count then increased, the polymorphonuclear percentage increased until the total count reached 29,400 with 70 per cent polymorphonuclear cells, 28 per cent lymphocytes, and 2 per cent eosinophiles. With the increase in the blood count the general symptoms improved. The patient then had a normal temperature and pulse with a leucocyte count of 29,400. The leucocyte count gradually returned to normal.

GENERAL COMMENT

It is not wise to draw too definite conclusions from these cases. However, they all have certain principal features in common; local infection following the extraction of teeth, a clinical course of an acute infection, a cystological and pathological evidence of involvement of the bone marrow. This suggests that this group of cases now classified clinically, principally by their blood findings, are closely related and are due to the action of infections directly or through their toxins on the hemopoietic organs, particularly on the bone marrow. It may be that the type of infection or the reaction of the indicidual determines the response. In Case IV of our series the individual apparently reacted to the same infection in the beginning with a pronounced agranulocytic reaction followed by a pronounced polymorphonuclear reaction.

Theoretically, this suggests that the infection or its noxious agent affected the bone marrow and destroyed or inhibited the production of the granular cells. When this inhibition or destruction was overcome the bone marrow responded with an increased production similar to the usual reaction seen in the response to pyogenic infections.

Longcope in his report of ten cases of infectious mononucleosis agrees that there is no direct evidence to uphold the assumption that mononucleosis may be due to a constant individual characteristic. He bases his opinion on Sprunt's and Evan's report of an individual who had suffered an attack of infectious mononucleosis and subsequently gave a perfectly normal polymorphonuclear response to a simple pyogenic infection.

Last April I saw a patient who complained of a sore throat. She had a marked cervical and slight general adenopathy. The total leucocyte count showed a high point of 29,000, 90 per cent of the cells were lymphocytes, many of which were not of

the type found in normal blood. The laboratory reported a blood picture of leukemia. The clinical diagnosis was infectious mononucleosis. Blood counts taken over a period of three weeks showed that her differential count was reversed every two or three days, and finally became normal. The blood count taken this month, one year after recovery, is perfectly normal. Apparently the reaction of the hemopoietic system of an individual is not constant even to the same infection.

Nothing constant has been found in the bacteriology of these cases. Cases of infectious mononucleosis, so-called mild acute leukemia and agranulocytic angina, have been reported which were associated with Vincent's angina. In Case II of our series the clinical picture of the throat and mouth was that of Vincent's angina, and smears contained a large number of the spirilla and fusiform bacilli. In Case III the clinical picture was not that of a Vincent's angina. There was only a small exudate on one tonsil, but smears from the teeth cavities showed a large number of Vincent's organisms. The blood picture and clinical features of Case II were those of an acute leukemia and of Case III, those of an agranulocytic angina.

As has been stated, I do not wish to draw any definite conclusions from these cases, and I have limited myself to four cases in which there seemed to be a direct connection between the infection following teeth extraction and the associated morbid states. Much discussion has taken place as to the relationship of the group of diseases called acute leukemia, aleukemic leukemia, agranulocytic angina, aplastic anemia, and infectious mononucleosis. The clinical, pathological and bacteriological findings have not been constant enough to group these diseases under one head, and yet they have many principal features in common. Whether or not they are separate clinical entities cannot be definitely determined. Further study and investigation along these lines may lead us to more definite conclusions.

The medicodental problem involved here is important. Three of our cases were operated upon by surgeon dentists in hospitals. The best known technique was observed. In two cases a complete physical and blood examination had been done previous to the extraction. That deaths resulted, particularly under such conditions, is extremely alarming. The operation for the extraction of teeth, which must be done in a notably infected field, is a serious problem, and deserves our most careful consideration.

Investigations should be carried on to determine the relationship, if any, between the opening of avenues of infection into bony tissue, particularly in view of the more recent method of chiseling away portions of the alveolar processes, and diseases whose dominant feature is a disturbance of the bone marrow. It is hoped that research will be undertaken along these lines, and that by a closer association of the physician, dentist, and laboratory investigator, we may obtain more knowledge of oral infections and their relationship to systemic disease. This may enable us in the future to give better protection to our patients.

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THE CAUSE OF ACUTE APPENDICITIS—THE HYDRO-MECHANICS IN ACUTE APPENDICITIS

By C. VAN ZWALENBURG *

FROM 300 to 400 pounds of pressure to the square inch in an orange tree,[1] to 100 mm. hg. in an acute appendix, living nature is guilty of a great variety of hydraulic pressures, and it behooves the physician to devote more attention to their study. What do we know about hydraulic pressures in the peritoneal cavity, the stomach, the intestine, the appendix, strangulated hernia, in the chest, in the cranium and spinal cord, in cysts, bursae and joints, in various uterine conditions, in the kidneys, the bladder, the gall bladder, twisted pedicle, abscess, the eye, glaucoma, etc.?

In these schematic drawings, I have used the hydraulic equivalent of five feet for the average blood pressure (120 to 130 mm. hg.), hoping for easier and more striking visualization. The hydraulic features of an abscess are shown in figures ——. No attempt is made to cover all the factors in the process. The details of the infection, toxemia, immunity, minute necrosis, hyperacidity, chemistry, and various other factors will be mentioned only as they are needed to clarify the hydraulic picture.

In this picture I am assuming the development of an abscess in the subcuticular tissues of the body. The pictures are practically the same in any part of the body, but are perhaps a little more simple here. The first step is manifestly the planting of pathogenic bacteria in the tissues. Usually this is accompanied by some traumatism, microscopic if not gross. This means the deposit of some débris at the point

* **Cornelius Van Zwalenburg** (Glenwood Mission Inn, Riverside, California). M. D. University of Michigan, 1885; Honorary D. Sc., Hope College, 1925. Graduate study: Polyclinic and various clinics in United States and Europe. Previous honors: Health officer, Kalamazoo, Mich., 1890 (2 years); Health officer, Riverside Co. 1902; Kalamazoo Academy of Medicine, 1885-1900; Secretary, 1886-93; President, 1899; President, California State Medical Society, 1919; President Southern California Medical Society, Delegate to Amer. Med. Assn., 1919 and 1923, incl. Founder and Fellow of the American College of Surgeons; Councillor Calif. State Med. Society for 10 years. Present hospital connections: Surgeon, Riverside County and Riverside Community hospitals. Scientific organizations: Kalamazoo Acad. Med.; C. M. A.; A. M. A.; Riverside County Med. Soc.; Am. College of Surgeons; Southern Calif. Med. Soc.; Los Angeles Clinical and Pathological Soc. Present appointments: President Staff Riverside Community Hospital. Practice: General, special attention to Surgery. Publications: "The Role of the 'Ball Valve' in the Etiology of Appendicitis," South. Calif. Prac., September, 1903; "Obturator Hernia—Double —Radical Cure by Operation," Surg. Gynec. Obst., April, 1913; "Emptying a Chronically Distended Bladder," J. A. M. A., December, 1920.

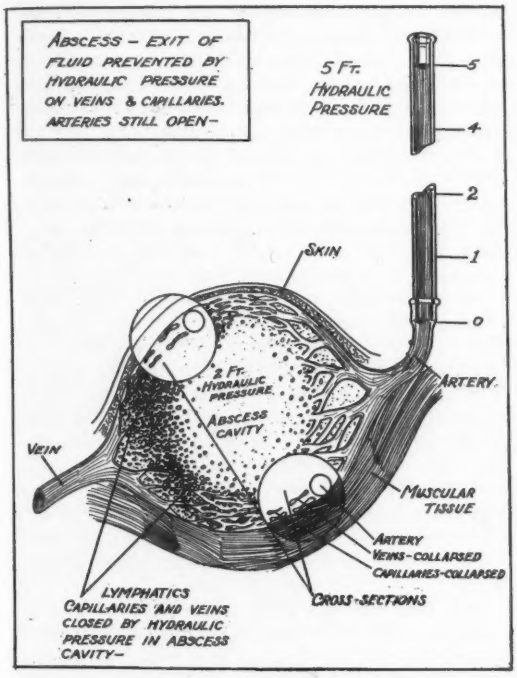

Fig. 1. Schematic Drawing—Arterial pressure, 125 mm. Mercury represented by a column of five feet hydraulic pressure. Hydraulic pressure in abscess cavity rising because this very pressure closes the veins and capillaries while the arterial pressure still forces more fluid into it.

of infection; blood clot and dead and dying tissue cells. The infection (bacterial growth) is immediately followed by the traumatism produced by the toxins of these bacteria. Suffice it to say that almost immediately there is an accumulation of débris. The presence of this débris, which is largely fluid, means pressure on the surrounding tissues. It is the effect of this pressure in which we are particularly interested in this study, and particularly its effect on the blood supply.

The blood is brought to the tissues through the arteries and arterioles, and carries a blood pressure of approximately 125 mm. hg. The fluid is removed from the tissues by the veins and lymphatics at a pressure of from 0 to 20 mm. hg.[2] [3] Manifestly, the pressure at this point will much more readily interfere with the outgoing circulation (the veins and lymphatics, 20 mm.) than the incoming circulation (the arteries, 125 mm.). This is the crux of the hydraulic features of abscess formation. The arteries with their firmer walls and their higher pressure will continue to carry fluid (the fluid part of the blood) into this focal point (the beginning abscess). Hydraulic pressure plus osmosis forces filtration through tissues, while the lymphatics and veins will fail to carry it away. Manifestly, the pressure in this pocket will promptly rise until a certain balance is established between the efferent and the afferent streams.

A vital factor which is important in this connection is the necrosis of the blood cells, tissue cells and bacteria which takes place at varying rates, dependent upon virulence and immunity. Another factor is the thrombus formation from the bacterial toxemia, first in the veins and capillaries, and as the greater obstruction to the blood stream develops, also in the arteries. This thrombosis, together with the ischemia in the adjacent tissues produced by the hydraulic pressure in the developing abscess, are the principal causes of the necrosis. Of course, the bacterial toxemia—chemical, and other factors must not be overlooked.

Thus the abscess grows by pressure upon the blood vessels, by clot formation, by cell necrosis from the bacterial toxins and mass necrosis from the pressure on the blood vessels, plus thrombosis. This necrosis, of course, will be in the direction of least resistance, that is, in the direction of the poorest blood supply. Hence the tendency of abscesses to progress toward the surface of the body where there is poorer circulation, the source of circulation, of course, being always from the deeper parts of the body.

My principal interest in this discussion is the hydraulic pressure in the abscess itself, increasing as the incoming stream at 125 mms. delivers it and the resulting pressure on the blood vessels in the surrounding tissues because of the failure of the efferent vessels at 10 mms. to carry it away. This process you will see duplicated in our study of acute appendicitis.

It would be most interesting to study nature's efforts to overcome this obstruction in the circulation, especially capillary. It brings up the entire question of congestion. However, space is limited. I will simply say there is evidence to show that there is a much more abundant capillary network in the tissues than is evident or needed for ordinary conditions, and congestion means the opening of innumerable capillaries which are not functioning, except perhaps occasionally, in normal conditions.[4]

A very simple experiment which I carried out some years ago when I pulled a knuckle of intestine out of a dog's abdomen, placed a light in it and distended it by hydraulic pressure under the microscope, gives a wonderful picture of this congestion and the increased number of capillaries.[5]

Acute appendicitis is a strangulation like abscess formation. The initial step is the formation of a closed pouch by the lodging of a plug of fecal matter, a feco-lith or débris behind a narrowing in the lumen of the appendix. Fecal matter normally passes rather freely into and out of the appendix, as evidenced daily by those making gastro-intestinal studies by x-ray.[6] In many cases it is this normal inflow of feces which may lodge there and accumulate for some time before it is sufficiently massed and packed to quietly lodge behind the constriction and close it. Being a mucus pouch, there is always some secretion and soon the pouch is filled with fluid. The active peristalsis of the appendix adds its pressure. Very soon the same increase of hydraulic pressure shown in our beginning abscess is present here. It takes probably no more than 10 mm. of pressure to produce some interference with the veinous and lymphatic flow in the mucosa and the submucosa. This intra-appendicular hydraulic pressure slowing and later arresting the veinous and lymphatic outflow has the same inevitable result that it

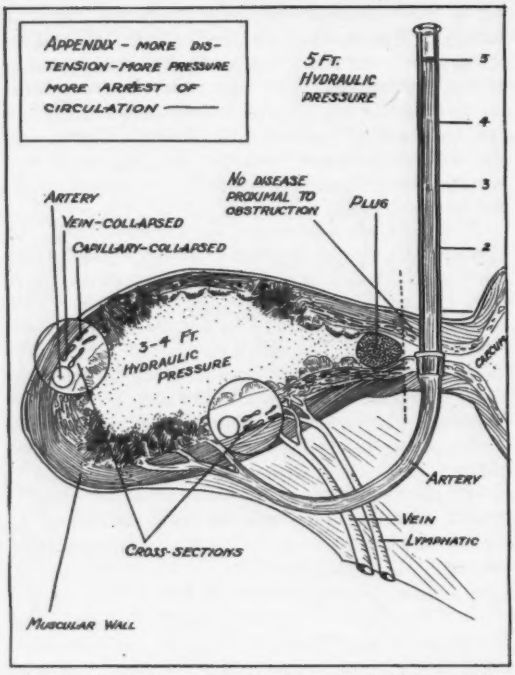

Fig. 2. Appendix cavity closed by plug behind constriction in lumen. Arterial pressure, 125 mm. represented by column of five feet hydraulic pressure. Intra-appendicular pressure rises because veins and lymphatics are closed by this intra-appendicular hydraulic pressure while arterial pressure still forces fluid into it.

has in abscess; effusion from the capillaries with consequent edema into the tissues[7] and into the lumen of the appendix, distending it; opening all pockets in the mucosa and allowing infection to take place.

No doubt oftentimes, especially in the fulminating type with sudden onset, there is a sudden rush of fluid from the cecum into the appendix. The fluid passes behind the plug or concretion, which acts as a ball valve. The valve closes firmly, the plug being held in the constriction by the fluid behind it under considerable tension at the very outset. This is the ball valve trap, which I described in my first paper on this subject in 1903, using as a text my experience with an acute appendix which first suggested to me this hydraulic factor in acute appendicitis.[8] This appendix had such a perfect ball valve that I was able with a soft rubber ear syringe to force water into it, spring the trap and it would hold the appendix distended with any amount of tension I chose to put into it.

The closure of the pouch is thus evidently largely a matter of accident though this study does suggest that a hyperactivity of the colon with or without constipation is sometimes a factor forcing the fluid contents of the colon with fecal matter into the appendix. Once the pouch is closed, tension is inevitable and we have a duplication of the hydraulic phenomenon we have just studied in abscess.

The crux of the problem lies in the hydraulic tension *inside the lumen* of the appendix. It is this pressure upon the veins and lymphatics in the mucosa, and especially upon the abundant plexus in the submucosa, upon the firmer muscular wall, which prevents fluid escaping into the general circulation. Any fluid carried into this pouch by the arteries, either directly or by filtering through capillaries or tissues, is held within the walls of the appendix and is constantly increasing the tension therein. Early in the process the arteries in the mesappendix, and largely in the wall of the appendix itself, are perfectly free and are carrying a hydraulic head of 100 to 200 mm. hg. as far into the appendix as possible. The stretching of the wall itself eventually arrests all circulation throughout its thickness, and a true strangulation supervenes.[5 8 9] The pathogenic and other germs always present in the appendix are active, doing their stuff, varying to all degrees of virulence, but actively producing infection, toxemia, and inflammation. Indeed our abscess cavity is complete; inflammation inside a cavity, a closed pouch, and pressure, pressure, pressure everywhere, and a ring of strangulated blood vessels in its walls, walls of the abscess, walls of the appendix, all the same. A true strangulation practically identical with strangulated hernia, because strangulation of hernia is due to pressure *inside* of the incarcerated knuckle of gut.

Hydraulic pressure follows the direction of least resistance? Yes! If the plug holds, which it does in probably 20 per cent of cases, hydraulic pressure will make its way through the weakest spot in the occluded part of the appendix. This will be in a general way the thinnest area in the appendix, the poorest circulation. Here necrosis will progress faster than elsewhere. But necrosis and gangrene may be general and depending largely upon the virulence of the organisms, the appendix may be gangrenous throughout the entire thickness of the walls for the entire length of the occluded portion of the appendix. In some cases the entire mucus surface may be necrotic; in others only small portions of the appendix wall may give way.

We said 20 per cent. This is, perforce, a guess only; but in probably 80 per cent of such obstructions the plug is the weakest part of the closed pouch. As the hydraulic tension in the pouch rises the plug is compressed, the constriction enlarges and the dam gives way into the colon. The tension is relieved. The blood vessels which are intact take on normal function and repair is begun on any damaged tissues. However, more or less infection has been established in the appendix and some tenderness over McBurney's point, more or less fever and a leukocytosis will run their course during the process of repair a few hours to a few days.

Manifestly, in the majority of this 80 per cent the plug will give way so early that very little reaction will follow. Sometimes it passes so quickly that in reality it can be called only an attack of appendicular colic. In other cases a considerable infection has been established and several days, even a week of abdominal tenderness follows. Of course, the plug may give way after necrosis or even gangrene has become established, though I believe this to be rare. Still, infection once established in the appendix, who can predict the end? I have removed acute appendices in which the inflammatory edema of the mucous membrane was so great that palpation

gave the impression of a distended appendix, and yet when opened the lumen was entirely empty, swept entirely clean. The thickened, inflamed, edematous mucous membrane filled the entire interior to distension. There was every evidence of distension, strangulation and virulent infection having been present a short time before. The frequent presence of slight hemorrhages into the mucosa or into the lumen of the appendix are evidence of the strangulation which marks the early steps of acute appendicitis.

ARGUMENT

1. You will agree from daily observation and experience that in acute abscess and in distended appendices we find a decided hydraulic tension, far greater than the few millimeters needed to stop blood flow in veins.

2. It would be most helpful if we could measure the actual tension found in these various conditions. I made some effort to have an instrument made for this purpose, but was not successful. It is enough for our purpose to know that it easily exceeds the normal pressure in the veins and stalls the circulation.

3. It must be conceded that the blood pressure (100 mms. or more) is constant in the artery.

4. When veins and lymphatics are obstructed there is bound to be effusion into the tissues and into cavities, abscess, or appendix.

5. Growing tension in the cavity (abscess or appendix) is bound to press upon the blood vessels and lymphatics in the walls, halt and eventually arrest the circulation in those walls,[5] causing more effusion, more distention, more interrupted circulation, a perfect viscious circle, a strangulation, until something gives way.

6. This arrested circulation from intra-appendicular hydraulic pressure is a complete explanation of the changes in the blood vessels, the hemorrhages and the various degrees of necrosis and gangrene, which from the beginning of our study of appendicitis have filled the literature with reports, pathologic findings, explanations and groupings after a plausible etiology.[10] [11] [12] [13] [14]

7. It puts to conclusive explanatory use the mass of discussion about embryologic irregularities, kinks, constrictions, twistings of the appendix, and fixes in a definite pathologic place the narrowed lumen, always present in every acute appendix worthy of the term acute appendicitis.[10] [12] [13] [15] [16] [17]

8. More recent literature is full of reports and explanations and the relations to etiology of the distended or empyemic appendix (see references). Add to many of these papers the factor of hydraulic pressure and the explanation is clear. I want to commend particularly the article by Doctor Wilkie of Edinburgh.[10] He gives excellent descriptions of obstructed and distended appendices and was very successful in producing appendicitis in rabbits and cats, and noted the difference in the virulence of the infection in proportion to the amount of fecal matter he stripped into the appendix before he applied his obstructive ligature. Add intra-appendicular hydraulic pressure and see how clear his picture is.

9. The idea of obstruction has constantly injected

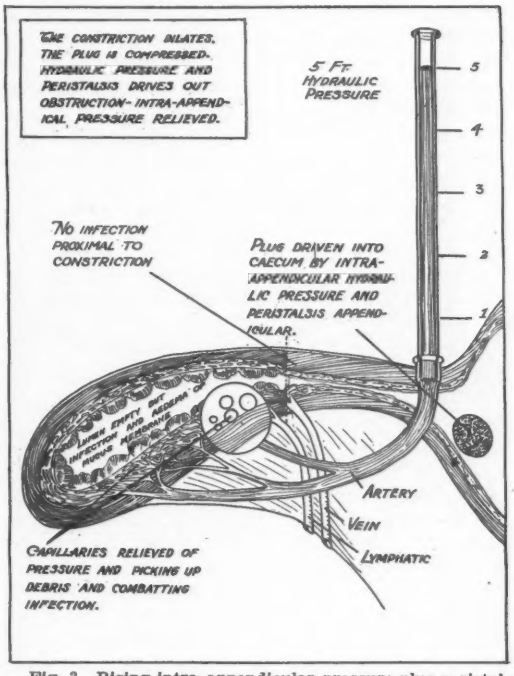
THE CONSTRICTION ABATES. THE PLUG IS COMPRESSED. HYDRAULIC PRESSURE AND PERISTALSIS DRIVES OUT OBSTRUCTION - INTRA-APPENDICAL PRESSURE RELIEVED.
5 FT. HYDRAULIC PRESSURE
5
4
3
2
1
NO INFECTION PROXIMAL TO CONSTRICTION
PLUG DRIVEN INTO CAECUM BY INTRA-APPENDICULAR HYDRAULIC PRESSURE AND PERISTALSIS APPENDICULAR.
ARTERY
VEIN
LYMPHATIC
CAPILLARIES RELIEVED OF PRESSURE AND PICKING UP DEBRIS AND COMBATTING INFECTION.

Fig. 3. Rising intra-appendicular pressure plus peristalsis forces plug through constriction. Drainage is established. Circulation is relieved and repair begun.

itself into our study of appendicitis, but our pathologists cannot see living, moving pathology, and because the *plug* has usually *disappeared* and practically always the hydraulic tension is gone they deny there ever was a plug. A concretion!! Oh, yes! He finds those occasionally. Perhaps it pressed upon a blood vessel or made an ulcer. He dare not deny that it is an etiologic factor. But his study is too much *dead* to let him go back a step and fit that concretion or plug into the constriction and allow him to reconstruct a living active picture of tragic strangulation which makes his pathology so simple that he spurns it. Here the surgeon must be the pathologist. It is living, gross pathology, and must be studied in its native habitat *before the appendix is at all disturbed.*

10. Yes! The majority of plugs will be driven into the colon before necrosis or gangrene set in. If strangulation has lasted only a few minutes (many an accurate history of such experience can be elicited by careful quizzing) the infection will be mild and confined to the mucous membrane. When the patient suffers for a few hours from spontaneous pain (colic) and then experiences a sudden giving way of pain and acute symptoms, infection involving the entire thickness of the mucous membrane and possibly more or less necrosis may be looked for.

11. How do we know that an obstruction occurs in the appendix and under a rising hydraulic pressure is driven out into the colon? How can we prove it? I know of no way. Some day someone will work out such a demonstration. Today it is the only logical explanation in the face of the conditions. The constriction we can demonstrate. You surgeons can testify to finding many appendices distended to

a considerable degree of hydraulic pressure. Those of you who are fortunate enough to operate within the first twenty-four hours of the attack will find many. Is it nbt just as logical to expect that a plug will be expelled from the appendix as that a cork is expelled from an air gun or a bullet from a rifle when pressure accumulates behind it? At one time I offered $10 to the nurse who would find a plug in the stools of a patient on whom I had operated. This obstruction had disappeared in the time which elapsed between his agreement to go to the hospital for immediate operation and the time of actual removal of the appendix. The clinical and pathological pictures were complete except for the presence of the plug. At the proper time she admitted finding a lump which she described as a perfect fit, but she tried to test it by pressure and it had gone all to pieces. I did not see even the pieces.

12. If this picture of strangulation is acted upon as it is in hernia, and operation is performed inside of twelve or twenty-four hours, many distended appendices will be found. Usually it will be a simple matter to demonstrate the obstruction. By manipulation it will often be possible to displace the plug either before or after removing it from the abdomen and thus relieve the distention. In fact I have had difficulty in retaining the plug in position until the whole appendix could be removed and carefully studied. The manipulations of removal are very likely to displace it.

13. Some narrowing of some point in the lumen of the appendix is present in every case of acute appendicitis worthy to be called appendicitis. This constriction may be slight and it may be at the appendico-cecal junction and be lost in the operative procedure, but it is always there! The surgeon must find it. He may lose it while releasing kinks and twists or in pulling up or in severing the appendix from its mesentery, or it may be hidden by the ligature at the cecal junction. If he keeps in mind the problem and looks early and carefully, he will always find it. I have never failed to find it where I looked for it during the past twenty years.

14. The line of demarkation between the infected and the normal mucus surface between the infected and the normal parts of the appendix is sharply drawn *at the point of constriction* and consequent obstruction. I need show you only a few pictures to remind you of the constancy of this pathology as you remove and examine acute appendices. At a glance you recognize healthy and diseased areas with a sharp line of demarkation *at the point of constriction*. Why otherwise pathology only distal to this point?

15. The clinical picture fits perfectly with this strangulation picture. The sudden onset, often fixed to the minute (springing of the trap); often the patient is impressed that something has gone wrong mechanically. The sudden relief of pain, often after a few minutes or a few hours; no further colic, only tenderness and slight fever for a few days. In another case gradual relief from pain after twenty to thirty hours. Onset of the anesthesia of gangrene to be followed at thirty-six to forty-eight hours by acute pain recurring when the necrosis gives way and peritonitis supervenes. The constant dove-tailing

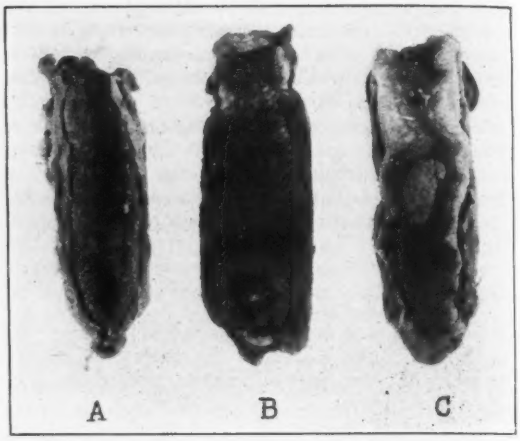

Fig. 4. Appendices showing effects of distention:

A. Constriction at cecum lost in amputation; obstruction, six hours acute catarrhal appendicitis; congested edematous; infected mucosa.

B. Appendix distended at operation eighteen hours after onset; proximal one-half inch normal; acute appendicitis; beyond sharp line of demarkation at constriction; strangulation; small hemorrhages and beginning necrosis.

C. Appendix distended at operation eighteen hours after operation; concretion at constriction; sharp line of demarkation at constriction between normal and strangulated tissue.

of these symptoms with the progress of the case and the pathologic findings at operation are often a perfect demonstration.

16. The constancy as to the time intervals in the pathologic steps are evidence of constant mechanical and hydraulic factors. The sudden onset, mechanical, the sudden let-up, mechanical, rupture in about forty-eight hours, mechanical. It varies a few hours, but in the vast majority of instances rupture of the appendix occurs within a very short time of the classical forty-eight hours, mechanical.

17. Acute appendicitis is a strangulation, a mechanical affair, and it calls for immediate mechanical treatment, surgery.

18. The way to curtail the mortality from appendicitis is to teach all men, lay as well as medical, that the etiology of appendicitis is not a matter of diet or occupation or exercise, constipation or diarrhea, la grippe, or tonsillitis, but that it depends upon the practically accidental conformation of that organ in each individual, that the acute attack means a mechanical obstruction with strangulation and that immediate removal is the royal road to the annihilation of appendix mortality.

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ENLARGED THYROIDS IN UNIVERSITY OF CALIFORNIA WOMEN STUDENTS

STUDIES IN INCIDENCE AS RELATED TO RESIDENCE

By RUBY CUNNINGHAM *

An editorial adviser who evaluated Doctor Cunningham's paper for the editor says: "I feel that the paper has statistical value not only for physicians in California, but also for those seeking data on the incidence of thyroid enlargements on the Pacific Coast.

DISCUSSION *by H. Lisser, San Francisco; E. H. Risley, Loma Linda.*

AMONG 7320 women students entering the University of California during the last five years 1361, or 18.6 per cent, had enlargement of the thyroid gland. The percentage has varied somewhat from year to year, depending upon the enthusiasm and skill of the examiners and their judgment as to where enlargement becomes pathological.

The physical examination required of freshmen is a hurried one. Students found to have physical defects are given a reappointment card so that they may be more carefully studied at a later date. During the last few years special attention has been given to students with enlarged thyroid glands. They have been asked to fill out a questionnaire, which calls for the birth places of themselves and their mothers, their various residences, and other facts of their history not included in routine histories. Almost all students who return for a re-examination of the thyroid were seen by a group of physicians from the University of California Medical School experienced in the recognition of thyroid disturbances; frequently the diagnosis was the result of a consultation.

Five hundred students with enlarged thyroids have been carefully studied in this way. They were taken in order of their entrance to the university and unselected except for the fact that students with small thyroids due to adolescence were not all included. The enlargement in 250 of the 500 patients was due to simple goiter of the adolescent type. Seventeen were of the adolescent type with beginning colloid changes and thirty-eight were typical colloid glands. One hundred and sixty-one had adenomata. In 147 the tumor appeared in glands otherwise normal, and in fourteen in colloid glands. One hundred and forty-three adenomata seemed nontoxic and where tested the metabolic rate was normal; eighteen remaining adenomata were toxic and were responsible for metabolic rates above normal. Thirty-four had hyperplastic enlargements with symptoms of hyperthyroidism. A report of the symptomatology and physical findings in this group is in progress.

Of the 500 students thus studied, 337 were born in other countries or states and 237, or 47 per cent, spent their childhood and adolescence outside of California. This means that California is wholly or in part responsible for only slightly more than half of the enlarged thyroids on its college campus.

The known goiter areas of the United States furnished a considerable number of the out of the state students with abnormal thyroids; seventy-three had spent all of their lives in one of the states bordering on the Great Lakes and forty-one in a state of the northwest goiter area. Sixty-three had spent all of their lives in one or more of the lake states and some had migrated to western goiter areas. Thus 177, or 74 per cent, of the students coming from other states with abnormal thyroids had resided in states or countries in which the goiter incidence is high.

A westward migration of those with or who later developed enlarged thyroids is indicated by a study of the birth places of patients and their mothers and the residences of the patients in childhood and adolescence. The incidence decreases from mother's birth place to the patient's residences during adolescence in eastern states with corresponding increases in populations in western states. Some of these conclusions are supported by the following table:

WESTWARD MIGRATION OF THOSE WITH ENLARGED THYROIDS

	California	Wash., Ore., Utah, Idaho	Great Lakes States
Mother's birth place....	86	23	216
Student's birth place....	116	60	173
Childhood residence.....	205	77	148
Adolescence residence	263	63	112

Doubtless, elsewhere in the west the incidence of enlarged thyroid is increased as it is among the University of California students by westward migration.

Of 2341 students registering from California 245, or 10.5 per cent, showed thyroid enlargement. Since the state possesses a wide range of geographic, geological and climatic conditions, we may expect the

* **Ruby L. Cunningham** (Berkeley). M. D. University of California, 1914; B. S., 1903 and M. S., 1912, University of California. Graduate study: Intern, San Francisco County Hospital, 1914-15. Hospital connections: University California Infirmary, 1915-26. Appointments: Assistant Professor Hygiene, and physician for women, University of California. Publications: "Scaphoid Scapula," Arch. Int. Med., 1912; "Vitamin 'A' Content of the Tubercle Bacillus," Rev. Tuberculosis, 1925.

incidence of enlarged thyroids to vary in different sections. This is confirmed by the following table:

THYROID INCIDENCE IN CALIFORNIA BY GROUPS OF COUNTIES

	Residence of 2341 recent entrants	Residence of those with enlarged thyroids among the 2341	Per cent thyroids enlarged	Number with enlarged thyroids spending their lifetime in the county
Volcanic Regions:				
Siskiyou, Modoc, Lassen counties	18	8	44.4	7
Mountain Counties:				
Trinity, Shasta, Tehama, Plumas, Placer, Sierra Nevada, Alpine Eldorado, Amador, Calaveras, Mariposa, Tuolumne, Mono, Inyo	65	16	24.6	10
Coast Range Counties:				
Del Norte, Humboldt, Mendocino, Sonoma, Lake, Marin, Solano, Napa, Contra Costa, Santa Cruz, Santa Clara, Monterey, San Benito, San Luis Obispo	279	60	21.5	30
So. California Counties:				
Santa Barbara, Ventura, Los Angeles, Orange, Riverside, San Bernardino, San Diego, Imperial	313	58	18.5	10
Valley Counties:				
Butte, Glenn, Colusa, Sutter, Yolo, Yuba, Sacramento, San Joaquin, Stanislaus, Merced, Fresno, Tulare, Kings, Kern	295	27	9.1	13
Bay Counties:				
San Francisco, San Mateo, Alameda	1372	76	5.5	22

The mountainous volcanic area in the northeast corner of the state sends few students to the university, but of this number 44.4 per cent have enlarged thyroids. Seven of the eight students with enlarged thyroids were born and brought up in the county from which they registered, so the locality may be considered intimately associated with their goiters. Goiter of adolescents, often spoken of as mountain goiter, may explain why the Sierra Nevada mountain regions of California furnished a high percentage, 24.6 among our students. Insufficient iodin intake is no doubt the chief factor in the production of mountain goiter. A high incidence of enlarged thyroids has long been noted in limestone regions, and animal experiments have shown iodin to be less effective in protecting against thyroid enlargement where associated with lime salts. The limestone belt, which runs from Mariposa County to Tehama County through the lower slopes of the Sierra Nevada, may be a factor in this moderately high incidence of enlarged thyroids, but as it occurs below the cities of gold-mining origin and above the farming belt and is sparsely settled, it can only affect a very limited number of individuals.

The Coast Range mountain counties are a close second to the counties of the high mountains with a 21.5 per cent production of enlarged thyroids. Here the limestone deposits may be a considerable factor since they are more widespread and some in well-populated areas. The elevation, which is probably associated with water supplies poor in iodin, is no doubt the chief causative factor. The population in these counties is moderately stationary, as indicated by the fact that one-half of those with enlarged glands had spent their entire lives in one county. The counties of the great valley show a 9.1 per cent incidence of goiter among the young women who come from them to the university. Unfortunately for the accuracy of our deductions, many of these counties have mountainous parts. Some of the six patients from Butte County and some of the eight from Fresno County may have come from mountainous parts of those counties. Girls from counties which are entirely upon the floor of the valley have a very low thyroid incidence.

The fact that only ten of the fifty-eight patients with enlarged thyroids grew up in southern California may indicate that the apparent incidence of 18.5 per cent is also influenced by nonresidents from goiter zones.

About the San Francisco bay we find few enlarged thyroids—5.5 per cent. Here our figures are the most reliable because they are the largest. The rather striking differences between the percentages for San Francisco County on the coast side (10.8 per cent) and Alameda County on the inland side of the bay (3.2 per cent) are interesting, especially when we note that seventeen of the San Francisco students and only four of the east bay region students grew up in their respective counties. This may be a prediction as to the iodin content of the water supplies of the two counties.

DISCUSSION

H. Lisser, M. D. (384 Post Street, San Francisco)—Each new statistical study of goiter incidence, if completely performed and wisely interpreted, constitutes a valuable contribution to our knowledge of the geographical distribution of so-called endemic goiter. Doctor Cunningham's paper affords an excellent example of this sort of investigation. Such goiter surveys are an essential prelude to any intelligent and comprehensive campaign for prophylaxis.

The ordinary "simple," "adolescent," "puberty," "endemic" or "diffuse colloid goiter" is but rarely associated with any marked derangement of thyroid function; at least not for several years after its appearance; a mild hypothyroidism may accompany the goiter, but usually escapes detection, and an associated autonomic imbalance is apt to be confused with Graves' disease. But the vast rank and file of adolescent goiters cause no disturbance other than a cosmetic embarrassment, and may even add beauty to the neck by rounding out its contours. Their significance consists in their potential danger for the future. Just as syphilis may appear to slumber innocently for ten or thirty years only to create havoc in later life, so the apparently harmless goiter may persist for a similar period, becoming adenomatous the while, and toxic later on.

It is therefore interesting to note that 161 of the 500 goiters reported by Doctor Cunningham contained adenomata already, and that eighteen of these gave evidence of toxicity. It would be even more interesting to have a second report ten years from now and a third report in twenty years in the nature of a "follow-up" in order to ascertain how many of the at present "adenomatous goiters *without* hyperthyroidism" had changed their character into "adenomatous goiters *with* hyperthyroidism." And it would be equally enlightening to learn how many of the simple goiters without adenomata had developed adenomata in the next ten years. Our therapeutic advice hinges largely on such data. There is no justification in our recommending surgical extirpation of adenomatous goiters which are causing neither regional pressure symptoms nor constitutional hormonic disturbance, unless adequate and accurate statistical data prove convincingly that a large percentage of these adenomata become toxic after 40 years of age. This is the contention of the Mayo

Clinic, and the converted disease is sometimes referred to as Plummer's disease.

The practical clinical import of Doctor Cunningham's statistics lies in the recognition of three prophylactic periods: (1) the prepubescent period, with prophylactic administration of iodin in areas where goiter is endemic; (2) the adolescent age, with the prompt administration of iodin before the goiter has become adenomatous and refractory to iodin; and (3) the early adult period, with the prophylactic removal of adenomata in order to prevent subsequent damage to the myocardium and the nervous system. Widespread goiter prophylaxis on a huge scale may prove to be as brilliant a public health measure as the campaigns for the eradication of typhoid, malaria, and yellow fever.

E. H. Risley, M. D. (College of Medical Evangelists, Loma Linda, California)—Doctor Cunningham's paper is a most interesting and valuable contribution to our knowledge of goiter. This is especially true since it applies in a special way to the state of California. Such studies are all the more important on account of the fact that they deal with a problem which can be benefitted by prophylactic measures.

The fact that 18.6 per cent of the young women, the very flower of the flock, in one of the leading educational institutions in the state show a disturbance of this kind should be a warning to us to be in earnest about applying measures for the relief of the situation.

It is true, as Doctor Lisser says, that many of these young women will never have serious trouble, but the potentialities are there and no one can predict who the victim will be.

McClendon and others have pointed out the etiologic relation of low iodin content of food and water to the incidence of goiter, and it seems that the statistics collected in this paper tend to prove the same idea, since in California surface water is generally low in iodin and well water often rich, it would seem plausible that the different localities mentioned might vary in the frequency of goiter manifestations as the iodin content of food and water varies. It would seem that a further correlation of Doctor Cunningham's findings might be exceedingly helpful.

One of the very practical values of this paper lies in the impetus it gives to the profession to help in educating the laity in regard to nutritional problems so as to avoid the serious consequences which may follow deficiency in diet.

THE BASIC CONCEPTS OF IMMUNITY *

By W. H. Manwaring

(Jour. Immunol. 12 (3): 177-84, 1926)

An inquiry as to whether or not the three major hypotheses underlying the Ehrlich theory as to the origin and nature of antibodies are in accord with known physiological facts. The paper cites a dozen or more physiological facts drawn from blood transfusion, organ transplantation, and perfusion experiments that are inconsistent with the Ehrlich hypotheses. Many of the facts are even wholly unthinkable from the Ehrlich point of view. The conclusion is drawn that the Ehrlich theory is merely of historical interest, that it should be discarded by practical serologists and clinicians, and eliminated from elementary textbooks for medical students.

As a substitute for the Ehrlich theory, the author suggests the theory that immunological antibodies are not hypertrophied, desquamated, pre-existing protoplasmic fragments ("side-chains") as the Ehrlich theory assumes, but that they are new substances, formed as a result of interaction between injected antigens and extracellular and intracellular hydrolyzing and synthesizing enzymes, and by these enzymes specifically adapted to the antigens or to products of antigen hydrolysis. The author believes this theory is in accord with the known facts of cellular biology, and that its acceptance would stimulate the hope that in time therapeutic antibodies, possibly even superior to those formed in the animal body, may be successfully synthesized in the chemical laboratory.

* Presidental Address, American Association Immunologists, Albany, New York, April 1, 1926.

MODERN MANAGEMENT OF EXOPHTHALMIC GOITER †

(From the Division of Surgery, Mayo Clinic, Rochester, Minnesota)

By John deJ. Pemberton *

EXOPHTHALMIC goiter was first described as an entity in 1825 by Parry, who published an account of eight cases. Later, Graves in 1835, and von Basedow in 1840 described the clinical findings. Curiously, not until the eighties was it accidentally discovered by several surgeons, Tillaux, Rehn, and Mikulicz, that the disease could be cured by operation on the thyroid gland. Since then surgery has made stupendous strides, holding an increasingly dominant rôle in the treatment of this malady, although history bears ample testimony that the path of progress of surgical treatment of the thyroid has been difficult and beset with many obstacles.

While the cause of exophthalmic goiter is not known, and is in all probability not thyrogenic, there is consistently a characteristic pathologic picture of diffuse, parenchymatous hypertrophy and hyperplasia in the thyroid gland, and, moreover, the successful resection of the gland is invariably followed by immediate remission of symptoms. All evidence points to the fact that the gland is delivering to the body an excessive amount of secretion, probably altered or perverted in character. As no substance has been found which will neutralize or counteract the action of the secretion in the tissues, practically all successful methods of treatment have aimed to diminish the activity of the gland by interference with its blood, lymph or nerve supply, or by partial destruction of the gland by resection, injections, or irradiation. As the preservation of a functioning portion of the thyroid gland is necessary for the maintenance of health, the important desideratum in any method employed should be reduction of hyperactivity without loss of function.

It was soon recognized that surgery offered means of removing excessive thyroid tissue, and at the same time insured the preservation of sufficient tissue for the maintenance of health. However, in the pioneer days surgical resection of the gland was attended by an almost prohibitive mortality and morbidity. A mortality of 25 per cent or even higher was not uncommon, and obstructive dyspnea, tetany, and myxedema were frequent postoperative sequelae. Many factors were responsible for these results, chiefly the faulty operative technique and lack of knowledge of the natural course of the disease. Frequently patients died even after an uncomplicated operative procedure, the result of crisis. It is not surprising therefore that with such a discouraging mortality only a few men ventured to develop this field of surgery. However, the very striking and obvious improvement in the patient's condition fol-

† Read before the California Medical Association in General Session, Oakland, 1926.

* **John deJ. Pemberton** (Mayo Clinic, Rochester, Minnesota). M. D. University of Pennsylvania, 1911; B. A. Univ. of North Carolina, 1907; M. S. in Surgery Univ. of Minnesota, 1918. The practice limited to Surgery. Publications: Fifteen articles dealing with goiter.

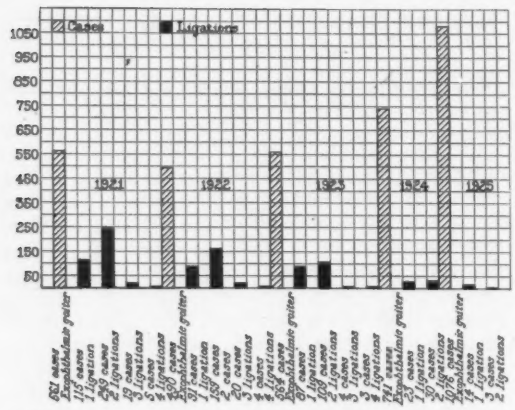

Fig. 1—Yearly cases and yearly ligations. The use of iodin was begun in March, 1922.

lowing successful operation spurred the pioneers to carry on. The development, and finally the standardization of the operative technique resulted from the efforts of a relatively few men, chiefly Mikulicz, Billroth, Kocher, Halstead, C. H. Mayo, and Crile.

The fact that the thyroid gland could be successfully resected in the large majority of cases, without danger of technical error, was a great impetus to the surgical treatment of goiter in general, but it did not completely solve the problem confronting the surgical treatment of exophthalmic goiter. In this there were hazards incident to the disease greater than those of faulty operative technique, that is, the acute postoperative hyperthyroid crisis and the debility of the patient.

The most baffling and discouraging problem in the management of exophthalmic goiter was the frequent occurrence of postoperative hyperthyroid crisis. Often within a few hours after the goiter had been successfully resected the patient would develop an acute reaction, with extreme tachycardia, high fever, nausea and vomiting, restlessness, mental stimulation, and delirium, which frequently terminated in coma and death within twelve to twenty-four hours. Necropsy would reveal no anatomic cause for death. As a rule the more toxic the patient's condition the more likely the development of a severe reaction, but there were no absolute criteria of the patient's condition by which the postoperative reaction could be foretold, for not infrequently it occurred when the condition was apparently but mildly toxic. No measure proved effectual in checking the progress of the reaction. Fortunately it was early recognized that hope lay in prevention, and efforts were directed at means of reducing the intensity of the hyperthyroidism and of affording protection to the patient. Thus, it was learned that during certain phases, when the degree of hyperthyroidism was greatest, the substitution of minor surgical procedures, such as ligation, at a diminished hazard, might so improve the condition of the patient that the thyroid gland could be resected later without the risk of an acute reaction. For the same purpose the operation might be divided into many stages. Other means advocated for the rehabilitation of the patient included the application of roentgen rays and radium to the thyroid and thymus glands, injection into the thyroid gland of boiling water and various drugs, such as carbolic acid and iodin, and the employment of general measures of rest, high-caloric diet and forced fluids. Likewise there were developed numerous refinements in surgical management, comprising chiefly the avoidance of prolonged general anesthesia and the use of special types of anesthetics, the preoperative administration of sedatives, such as morphin and scopolamin, and the performance of the operation in bed, all designed for the protection of the patient. In the earlier days a great many patients with exophthalmic goiter did not present themselves for surgical treatment until late in the course of the disease, after the development of visceral degeneration, when the operative risk was high and the prospect for cure diminished. This was an important factor in retarding the progress of the surgical management of exophthalmic goiter. There were three chief reasons why patients did not submit to operation until they had tried other methods of treatment without success. The first reason was the relatively high mortality and morbidity, and the second, the rather high percentage of relapses due to the incompleteness of the operative procedure (lobectomy). During this period the generally accepted operation for exophthalmic goiter was resection or extirpation of one lateral lobe of the gland, tissue in the remaining lobe equivalent to several times the normal being thereby preserved. That there should have been a persistence of hyperthyroidism at a reduced level in such patients was not surprising. All the patients received great immediate benefit from the procedure, and, curiously, in many it was permanent, while in others complete remission was followed by relapse, sometimes six or eight years afterward. The third reason why patients were late in having surgical treatment was because of the tendency toward spontaneous remission of symptoms and cure of the disease. For any disease of unknown origin, the natural course of which fluctuates and at times results in symptomatic recovery, it is to be expected that there should be developed many systems of treatment, each vouchsafed as specific; and so it has been in the management of exophthalmic goiter. To enumerate only a few, there have been the rest cure, treatment with specific serums or specific drugs, irradiation, injections, osteopathy, and various therapies, as organotherapy, electrotherapy, and hydrotherapy. But the tendency toward spontaneous cure and remission in exophthalmic goiter is not constant, for in many patients (probably more than 60 per cent) the course of the disease is even, usually mild and uninterrupted by waves of exacerbation. The disease may begin in a remittent form and continue in a chronic. It is obvious, therefore, that any treatment not founded on at least a partially rational basis cannot survive.

With the improvement of the surgical management of exophthalmic goiter patients began to seek operation before the disease had wrought permanent damage. Thus one of the additional operative hazards was partially removed by the patients themselves.

The reduction of the operative mortality to the low rate of from 2 to 4 per cent was a noteworthy achievement which served to establish firmly the

surgical treatment of exophthalmic goiter. However, it was recognized that on account of the failure to eliminate the hyperthyroidism completely, and because of the obvious objections to the multiple-stage operation, the treatment still left much to be desired. Further improvement was impossible without the close co-operation of the internist, the laboratory worker, and the surgeon.

In the Mayo Clinic in March, 1922, Plummer instituted the administration of compound tincture of iodin (Lugol's solution) to patients with exophthalmic goiter under preparation for surgical treatment. Previous to this the general conception of the nature of the hyperthyroidism in exophthalmic goiter was that the body tissues were saturated with iodin elaborated by the thyroid gland. Hyperthyroidism and hyperoidism were spoken of synonymously, and so the administration of iodin to patients with exophthalmic goiter had seemed definitely contraindicated.

The action of iodin in a case of exophthalmic goiter is not definitely known, but the following is supposed to be the basis: The syndrome of adenomatous goiter with hyperthyroidism is the result of an excessive amount of thyroxin in the tissues, and can be produced experimentally in myxedematous patients by feeding them excessive amounts of thyroid extract or thyroxin. In short, adenomatous goiter with hyperthyroidism is pure hyperthyroidism. In exophthalmic goiter there is the same syndrome with certain additional characteristic symptoms, such as exophthalmos, nervous and gastrointestinal phenomena, and a tendency toward spontaneous crisis. The cause of exophthalmic goiter is not known. Plummer suggests that intensive stimulation of unknown source, acting on the entire gland, drives it to the point of producing an active agent, abnormal in quality as well as quantity, which causes all the phenomena of the disease in the tissues of the body. As the normal molecule of thyroxin, discovered in 1914 by Kendall, contains 65 per cent by weight of iodin, it was natural to speculate as to the possibility of an incompletely iodized molecule, and Plummer conceived the theory that the syndrome of exophthalmic goiter varies with the total amount of a completely iodized molecule, and with the relative amount of the two molecules in the tissues. The expectation, therefore, was that if iodin were given in amounts sufficient to iodize completely all the thyroxin in a patient with exophthalmic goiter, those symptoms peculiar to the disease would disappear or diminish in intensity; and as the occurrence of postoperative hyperthyroid reactions was known to be confined to patients in whom these characteristic symptoms were most marked, their elimination seemed certain.

Actually, the employment of iodin more than fulfilled all reasonable hopes. Surprisingly quick after its administration to a patient with exophthalmic goiter, there is to be noted a very definite change in symptoms. Usually the first difference is noted by the patient in the loss of nervous tension with ability to relax and sleep; there is a loss of the "stare" of the eyes, although not usually accompanied by any appreciable lessening of the exophthalmos. Nausea, vomiting and diarrhea, if present, often disappear within from twelve to twenty-four hours. Following the improvement in appetite there

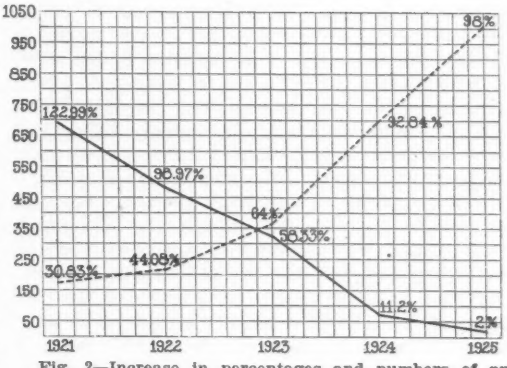

Fig. 2—Increase in percentages and numbers of primary thyroidectomies (broken line) and decrease in percentages and numbers of ligations (solid line).

is a gain in weight and strength, and within from five to seven days the pulse rate and basal metabolic rate drop, often from thirty to forty points each. The more toxic the patient's condition, the more striking is the improvement. Patients with mild symptoms, and those with moderate or relatively high hyperthyroidism with a hard "trained" goiter, usually of long duration, appear to improve only slightly from the administration of iodin. Boothby found that after the initial improvement, due to iodin, the patient's condition becomes stable and no further improvement occurs. I have since been able to confirm this by observation of many patients who took iodin continuously for a year or more, so there is no rational basis for administering iodin in cases of exophthalmic goiter with the expectation of curing the disease.

The preoperative administration of iodin to patients with exophthalmic goiter for a period of ten days or longer has a constant effect on the thyroid gland. According to Broders the histologic changes are diffuse and characterized chiefly by marked dilatation of the follicles, a change in the lining epithelium from columnar to cuboidal or even to flat cells, and an increased deposit and thinning of the colloid material. Grossly this is manifested by a change from the meaty, friable, and extremely vascular type of goiter to one approaching the diffuse colloid goiter. From a surgical consideration the benefit from iodin is not confined to the reduction of the activity of the gland, as the technical procedure is made easier by it.

PREOPERATIVE PREPARATION

Except as to the fundamental principles involved, there can be no standardization of the preoperative preparation of patients with exophthalmic goiter; the method must be adapted to the individual patient. Obviously, the more toxic the patient's condition the greater the care and time needed for preparation. Three measures are essential for all patients: iodin, rest, and a high-caloric diet. The patients with milder symptoms are given Lugol's solution, 10 minims three times a day for from five to seven days, and are not necessarily placed in the hospital. All others are in the hospital for from five days to one month or longer, depending on the condition, but they are not kept in bed continuously unless absolute rest is clearly indicated. In all in-

stances the patient should be allowed to be up and around for several days before the operation. Lugol's solution is given in the same dosage three or four times a day. To patients admitted to the clinic in a crisis a larger amount of Lugol's solution is given, sometimes 60 to 100 minims daily, until the crisis has subsided, then 10 minims three times daily until operation. The administration of digitalis as a routine preoperative measure is contraindicated; it is indicated only in the exceptional instance, for the patient with cardiac decompensation when compensation is not restored by rest. Digitalis should be stopped at least three days before operation. While I am not capable of discussing the effect of digitalis in cases of toxic goiter, I can assert positively that operative results decidedly improved after the routine use of digitalis was discontinued. Other measures are employed only as they may be definitely indicated.

PROPER TIME FOR OPERATION

There can be no rules to regulate the time for operation; experience must dictate. However, certain considerations are fundamental. For patients who are classified as bad risks preparatory measures should be continued as long as there is definite improvement. There are two additional operative hazards in patients with exophthalmic goiter: a postoperative crisis if the patient's condition is acutely toxic and the postoperative development of pulmonary infection if the patient is greatly debilitated. These two possibilities should always be borne in mind in deciding the time to operate. As already indicated, the disappearance or marked diminution of the symptoms characteristic of exophthalmic goiter (nervous tension, restlessness, mental stimulation or depression, nausea, "stare," and so forth) is a reliable index that there will be no serious hyperthyroid reaction, provided there are no technical complications. General debility must not be overlooked. The patient who has recently passed through a crisis should not be subjected to thyroidectomy until he has at least partially regained his strength. This may require a month or longer. Improvement may be hastened and made more certain if both superior thyroid poles are first ligated. However, the indications for this procedure have been reduced remarkably since the introduction of iodin (Figs. 1 and 2).

Before advising ligation and permitting the patient to pass from direct observation one should keep in mind the fact that in every case during the course of the disease there may be one time most favorable for partial thyroidectomy, and that if this is allowed to pass by, surgical treatment may be fraught with greater hazard. The operative risk in children with exophthalmic goiter is relatively greater than in adults, and I have often found it advisable to prolong their preparatory treatment to two or three months.

THE OPERATIVE PROCEDURE

I shall not discuss in detail the operative technique for exophthalmic goiter, but I shall mention briefly three points which I consider of importance to the success of surgical treatment of goiter in general. The first point is the establishment of the patient's confidence. To cloak in mystery any part of the proposed management would only instil fear and doubt in the patient's mind. Therefore, his confidence is best gained by frankly outlining to him the plan of management, and by permitting him to mingle with other patients who have already had their operations, and are enthusiastic over the result. The second point is anesthesia. Local anesthesia is to be preferred if the co-operation of the patient can be secured. When general anesthesia also is necessary, the type used (nitrous oxid, ethylene, ether) is of little consequence. The experience of the anesthetist is of far greater importance. The aim in all instances should be to avoid prolonged deep anesthesia. The third point is technical complications. The most frequent technical complications in the surgical management of goiter are injury to the recurrent laryngeal nerve and postoperative hemorrhage. The occurrence of either may result in death of the patient. To avoid them requires meticulous care in technical details.

POSTOPERATIVE TREATMENT

The early postoperative care of the patient should, for the most part, be symptomatic. Lugol's solution is given as a routine measure. To the patient who was a bad risk it is administered in large doses, 40 to 60 minims, in the belief that it may influence the postoperative reaction. Absolute dependence should not be placed on the heavy postoperative administration alone, or the death of the patient may result. Postoperative administration is necessary in addition to the preoperative administration; it is not a substitute. Lugol's solution in doses of 10 minims a day is prescribed for from two to three months following the operation.

MORTALITY

In the Mayo Clinic from January, 1924, to January, 1926, partial thyroidectomy was performed in 1835 cases of exophthalmic goiter, with eighteen deaths, a mortality of 0.98 per cent. It is evident that under this plan of treatment the operative mortality for partial thyroidectomy has been reduced to a nominal figure, so that today the patient with exophthalmic goiter is running a greater risk by postponing surgical treatment than in submitting to it.

So long as religion, convention and society insist that we treat our instincts, and particularly the genesic instinct, not only as the chief source of sin, but as something to be ashamed of instead of looking upon it as a fountain of love, light and life and our noblest and most godlike possession, we are going to have nervous and mental diseases, for the exciting cause of most of them is repressing, or improperly and indiscreetly indulging that instinct. —Joseph Collins, Dearborn Independent.

The best method to attack problems in the borderland subjects is by co-operation between two types of trained investigators. In the case of biochemistry, for example, by the provision of trained students of two kinds, the one trained in physiology but with a sufficient knowledge of organic chemistry to promote sympathy with and knowledge of the chemist's point of view, and the other trained as an organic chemist with a similar knowledge of the methods and requirements of the physiologist.—J. F. Thorpe, Science, September 3, 1926.

THE VALUE OF DARKFIELD MICROSCOPY IN THE DIFFERENTIAL DIAGNOSIS OF SECONDARY SYPHILIS

By H. J. TEMPLETON *

THE great value of doing darkfield examinations for the spirocheta pallida on all genital lesions, regardless of their appearance, has been frequently emphasized and is now generally recognized. The darkfield microscope is also very valuable in demonstrating the spirochetes in the lesions of secondary syphilis. That such lesions contain the spirocheta pallida, and that they can generally be easily found, are facts which have long been known but which have not been applied frequently enough in actual practice.

It often becomes necessary to differentiate secondary syphilis from some benign dermatosis which resembles it. In most instances this can be done on clinical grounds, but a few cases occur where the differentiation is rather difficult, especially to those who have not had special training in this field of medicine. The macular syphilid, for instance, may very closely resemble the eruption produced by certain drugs such as belladonna and the balsamics. It may also be confused with pityriasis rosea. Another syphiloderm very closely resembles psoriasis at times. Another type so simulates smallpox as to be called the "varioliform" syphilid. We also have the "acneform" syphilid, the "lichenoid" syphilid, the "impetigoform," the "ecthymaform" syphilid, each of which may closely resemble the dermatosis from which it is named. Now if we are confronted with the necessity of deciding whether or not a given lesion is a secondary syphiloderm and find diagnosis difficult or impossible upon purely clinical grounds, we should have recourse to examination with the darkfield microscope.

The lesions under question should be cleansed and abraded until serum exudes. Careful and repeated examinations will disclose the spirocheta pallida in those lesions which are syphilitic. Positive findings are absolute proof of syphilis and, likewise, negative findings carefully arrived at speak very strongly in favor of the benign nature of the process.

This procedure is far less open to error than darkfield examinations done on suspicious lesions on the genitals or in the mouth. For in these localities harmless spirochetes normally exist which might be confused with the spirocheta pallida. But such is not true of lesions of the skin where other spirochetes (except the s. pertenue of yaws) do not occur even as contaminators.

The Wassermann reaction is sometimes resorted to when the diagnosis is in doubt, but although it is valuable in deciding whether or not the patient is syphilitic, it may not be of value in deciding whether or not the lesion under observation is syphilitic. For a patient may have a positive Wassermann, due to an old syphilis, and still develop any one of the many dermatoses.

If specific antisyphilitic therapy has been applied this method becomes less valuable, as even one injection of arsphenamin will destroy most of the organisms. I have not used this method in the differential diagnosis of late recurrent secondaries, but it probably would be of less value in such eruptions, for they are reactions of a sensitized skin to but a few spirochetes and do not contain nearly as many as the lesions of the early secondary period.

EXAMPLES

CASE 1—Mr. R. S., age 32, was brought to me by a urologist because of a macular eruption on his forehead, chest, and back. Suspicious intercourse admitted. Chancre was denied, and no evidence of any could be found. There were no lesions on the mucous membranes, nor was adenopathy present. The eruption might have been regarded as either a macular syphilid or as a toxic erythema from drugs. This latter diagnosis was especially to be thought of because the patient had begun taking cathartic pills containing belladonna prior to the onset of the rash. A lesion on the forehead was examined with the darkfield microscope and many spirocheta pallida were found. The Wassermann was later found to be strongly positive. The eruption rapidly vanished with the use of neoarsphenamin. Diagnosis: Macular syphilid.

CASE 2—A. L., age 40, presented an acute generalized eruption of split pea to fingernail-sized papules covered with a rather dirty gray scale. His forehead showed dull red papules following the hair line in a manner very suggestive of the "corona veneris" seen in the papular syphilodermas. In spite of a positive Wassermann, a diagnosis of psoriasis was made on the appearance of the lesions. This diagnosis was questioned. Therefore, serum from one of the papules on the abdomen was examined. No spirochetes were found. The later development of typical psoriatic patches on the elbows substantiated the darkfield's negative findings. Diagnosis: Psoriasis.

CASE 3—An eruption was diagnosed as a papular syphilid by a urologist. A physician with considerable experience in syphilology disagreed with this diagnosis. The patient was referred to me for a dermatologic opinion. My diagnosis was syphilis, but to definitely settle the argument a darkfield examination was done. Many spirocheta pallida were found in serum from a papule on the chest. Diagnosis: Papular syphilid.

CONCLUSION

Spirocheta pallida occur in the cutaneous lesions of secondary syphilis, and can be demonstrated by the darkfield microscope. This constitutes a valuable, accurate and fairly easy method of differentiating the secondary syphiloderms from the various dermatoses which resemble them.

* **H. J. Templeton** (3115 Webster Street, Oakland, California). M. D. Ohio State University, 1917. Graduate study: Intern Denver County Hospital, 1919-20; graduate School of Medicine, University of Pennsylvania, 1924-25; graduate study, Stanford University School of Medicine, 1925-26; M. Sc. (Med.) University of Pennsylvania, 1926. Appointments: Dermatologist, University of California Infirmary, Berkeley; instructor in dermatology, Stanford University; dermatologist, Alameda Health Center. Publications: Several papers in Arch. Derm. and Syph. and Calif. and West. Med. Practice limited to Dermatology and Syphilology.

The only fine feature of national statistics is their flexibility. If I am an Anti-Saloon Leaguer, I can get the exact figures on how much prohibition has saved the nation. If I am a Saloon Leaguer, I can get equally accurate figures on how much prohibition has cost the nation. I have before me a bulletin which seeks to prove that we are not spending too much for public education. It compares the national wealth of 1922—which is only a guess—with the income of 1919 and the cost of education in 1922. The resulting chart looks as though it ought to mean something. Actually it means nothing at all, for the figures are not comparable. By the same method I could estimate the cost of King Tut's funeral, compare the result with what Henry VIII spent for wives, reduce the whole to 1913 dollars, and prove that after all it wouldn't cost much to run an automobile in 1930.—Samuel Crowther, Dearborn Independent.

THE MEDICAL CORPS OF THE NAVY—WHAT IT OFFERS THE MEDICAL MAN

By J. Gregg Smith *
Lieutenant Medical Corps, U. S. Navy

THE Medical Corps of the United States Navy as a career offers a constantly increasing appeal to qualified medical men. In the navy the medical officer has many opportunities for travel in congenial company with an assured position. He has ample work to keep him busy, with numerous opportunities for scientific work. At the same time he has time for relaxation, pleasure and sports that in civilian life can only be enjoyed by the exceptionally well-to-do. At all naval ports clubs with golf and other attractions are open to him at a nominal fee.

Following appointment, medical officers are usually ordered to the naval hospital nearest his home. There he remains until ordered to report to the Naval Medical School at Washington, D. C., to pursue a course of instruction designed to fit him for the special duties required by the naval service.

The course in this school consists of lectures and practical laboratory work in tropical medicine, surgery, ophthalmology, otology, clinical chemistry, medical diagnosis, cardiovascular diseases, medical department duties, preventive medicine, naval hygiene, epidemiology, sanitation, pathology, medical zoology, physiotherapy, bacteriology, serology, hematology, basal metabolism, gas warfare, aviation medicine, genito-urinary diseases, roentgenology, clinical neurology, and psychiatry.

Upon completion of the course the members of the class are ordered to sea duty. For several years the navy has been accepting qualified senior medical students of Class "A" Medical School as interns. These and other medical officers who have entered the service without adequate postgraduate hospital service are ordered to a large naval hospital where they serve a year before going to sea. These naval hospitals are located near large cities such as Boston, New York, Philadelphia, Norfolk, San Diego, San Francisco, and Seattle.

The internship is rotating and consists of approximately five months medical, five months surgical, and two months laboratory duties. These hospitals have affiliations with lying-in hospitals where short courses in obstetrics and gynecology may be had. Since the adoption of the practice of appointing select graduates as assistant surgeons and assigning them to naval hospitals for a year's intern service a teaching service has been developed at the larger hospitals. The heads of the various departments are specialists. Professional survey by the hospitalization committee of the American College of Surgeons reports that the naval hospitals visited by them has been found to far exceed the minimum requirements for internship.

Sea duty is quite diversified, from small ships that may take one to the Mediterranean, Central and South America, China, and Japan (the Asiatic Fleet consists of more than forty naval vessels), or he may have duty on board a battleship, a vessel carrying from 1200 to 1600 men. These have spacious wards with all conveniences for treatment of injuries or diseases to be found in a hospital on shore. An isolation ward for communicable diseases; a fully equipped operating room, a dispensary, a dressing and examining room completely equipped for dressing surgical cases and performing minor surgical procedures, a well-equipped clinical laboratory and a medical store room sufficient for the needs of a long cruise.

A medical officer's first sea cruise usually lasts from two and a half to three years. On coming ashore he usually finds himself due for promotion with consequent increase in pay and allowances, and receives assignment to one of the various shore establishments among which may be mentioned navy hospitals, navy yards, training stations, torpedo stations, hospital corps schools, Navy Medical School, recruiting stations, naval dispensaries, aviation fields, the various marine bases and barracks.

The naval hospitals are located at Portsmouth, N. H., Boston, Mass., Newport, R. I., New York, N. Y., Philadelphia, Pa., Washington, D. C., Norfolk, Va., Charleston, S. C., Pensacola, Fla., San Diego, Calif., Mare Island, Calif., Bremerton, Wash. (near Seattle, Wash.), Honolulu, T. H., Yokohama, Japan, Cavite, P. I. These hospitals are large and compare favorably with the best civilian hospitals anywhere in the United States. The hospital staff usually consists of from twenty to thirty medical officers, including well-trained specialists in internal medicine, surgery, ear, eyes and throat, urology, roentgenology, and psychiatry. Weekly conferences are held at all hospitals, at which interesting cases are presented and papers read. Often leading civilian specialists are secured to read papers and present cases at these meetings.

During the past six years, through the courtesy of the Mayo foundations, at least nineteen of our physicians have been sent to Rochester, Minnesota, for periods of observation and study varying from three to six months. During the same time at various other institutions more than two hundred officers have taken postgraduate courses in internal medicine, roentgenology, eye, ear, nose and throat diseases, urology, psychiatry, and even obstetrics and pediatrics. During the year 1925, 68 medical officers, 13 dental officers, 14 nurses, and 114 hospital corps men have been given special courses at various institutions in the United States. Eighty medical officers were authorized to receive special postgraduate instruction during 1926. I might also mention

* **J. Gregg Smith,** Lieutenant (M. C. U. S. N. (U. S. Navy Rctg. Sta., Salt Lake City). M. D. Medical College of Virginia, 1915. Graduate study: Undergraduate internship Retreat for Sick, Richmond, Va., 1914-15; Intern U. S. P. H. Hospital, Boston, Mass., 1915; house physician Boston Lying-In Hospital, 1916; course of instruction Army Chemical Warfare School, Edgewood Arsenal, Maryland. Previous honors: Active-duty U. S. N. Med. Corps, U. S. N. R. F., May, 1917, to June, 1919; sea duty, July, 1917, to November, 1918; duty with marines, November, 1918, to June, 1919; private practice till November, 1921; general practice, including general surgery; entered regular Navy, November 14, 1921, at which time was vice-president of county and district medical societies; served as "Major in the Policia Nacional Dominicana" for two years while serving with marines in Santo Domingo. Scientific organizations: A. M. A. Present appointments: Passed assistant surgeon Medical Corps, U. S. Navy. Practice: General, especially interest in Urology since 1912. Publications: "Amebia and Bacillary Dysentery; Review of Recent Literature," Naval Medical Bulletin, 1923.

that during the war about thirty medical officers were given training at the Rockefeller Institute.

Although the naval medical officer's day is usually crowded with official activities his day ends at 4 or 4:30 p. m., and he is able to enjoy evenings and Sundays with his family or friends. There is always time for recreation or the pursuance of a hobby. Often the opportunity for boating, hunting, and fishing such as only the very wealthy may enjoy. Golf, tennis, and baseball may be played in every port. Every ship and station has its motion pictures and other amusements. In addition opportunities for specialization and keeping abreast of the times are at least equal to that enjoyed by the average city physician.

The Naval Reserve is a component part of the United States Navy, and acceptance of membership in the reserve represents mainly an agreement to serve as a commissioned medical officer in the navy in time of war or during a national emergency so declared by the President.

Although members are thus obligated to serve in time of war, and may then be separated from the service only as provided for by the same laws and regulations as apply to officers of the regular navy, in time of peace, on the contrary, an officer may be ordered to active duty or training only with his own consent, he may resign within the discretion of the Secretary of the Navy, and he may not be discharged except for cause. Should an officer, in the course of the physical examination which is required every four years, be found physically disqualified for service he may be honorably discharged or placed on an honorary retired list.

Officers are commissioned in the reserve by the President to serve during his pleasure in the same grades and ranks as do the officers of the regular navy, appointments and promotions being made pursuant to law and in accordance with regulations prescribed by the Secretary of the Navy.

Officers of the reserve of the same rank take precedence among themselves by date of commission. In time of peace they take precedence with but after officers of the regular navy of the same rank. When mobilized in time of war or national emergency, officers of and above the rank of Lieutenant Commander take precedence with all other officers according to the dates of their respective commissions. When performing active duty or its equivalent, or while wearing a naval uniform, officers of the reserve are subject to the laws, regulations, and orders for the government of the navy.

A candidate for appointment as medical officer must apply by letter to the commandant of the naval district in which he is a resident, requesting permission to be examined for appointment in the grade of Assistant Surgeon, rank of Lieutenant Junior Grade, United States Volunteer Naval Reserve. No professional examination is required of a candidate for appointment. His professional qualifications being established by letters and certificates submitted with his application. Letters testifying to his moral character, habits, citizenship, preliminary education, medical education, society membership, and a license to practice medicine must also accompany his application.

The information here given has necessarily been very brief, so for the benefit of those interested in either the Naval Reserve or the Regular Navy, I might add that I am located at the Navy Recruiting Station in Salt Lake City, and will at all times be glad to give any information on the subject.

CHRONIC ARTHRITIS: ITS TREATMENT WITH EMETIN †

By LEONARD W. ELY *

(From the Orthopedic Division, Stanford Medical School)

THE form of arthritis considered most likely to respond to the emetin treatment is that which I have repeatedly discussed as the second great type—osteoarthritis, hypertrophic arthritis, arthritis deformans, degenerative arthritis, etc., as it is generally known. This form of arthritis was formerly attributed to trauma or to bacterial agents, and is still attributed to them by many. I have been unable to accept this conclusion because the study of my specimens convinces me of its inadequacy. The areas of aseptic necrosis in the bone, and the reaction of the marrow about them, indicate the presence of some living organism, the changes one would expect from the protozoa. This hypothesis was supported by the almost invariable accompaniment of infection of the bone at the roots of the teeth. While the tooth is of no direct importance, so-called root disease keeps the door open for the other infectious agent.

I acknowledge that the hypothesis that the ameba causes chronic arthritis has not been proved. Kofoid's reported discovery of ameba histolytica in the bone marrow of one of my specimens has never been confirmed, and satisfactory experimental proof on animals is still lacking.

The percentage of positive finds of protozoa in the stools of my patients with second type arthritis is fairly high, as shown in previous reports. Parasites have been found in the stools of several patients with first type arthritis. Two or three patients with apparently incurable progressive arthritis were cured by antiprotozoal treatment.

My method of handling second type cases is as follows: Every patient is investigated for the presence of alveolar infection. If it is present it is treated. Routine search of five or six stools is being conducted meanwhile. If protozoa be found, the patient gets the full antiparasitic treatment; if not, the neoarsphenamin is omitted.

The full treatment is a course of emetin hydro-

† Read before the medical section at the annual meeting of the California Medical Association, May, 1926.

* **Leonard W. Ely** (Stanford University Hospital, San Francisco). M. D. Columbia University, 1895; A. B. Columbia, 1889. Graduate study: Metropolitan Hospital, New York; one year in Vienna. Previous honors: Consulting Orthopedic Surgeon, Roosevelt and Metropolitan hospitals; Surgeon Sea Breeze Hospital, New York. Present hospital connections: Stanford University and Lane hospitals. Scientific organizations: San Francisco County Medical Society, California Medical Association, American Medical Association. Present appointments: Professor of Surgery (Orthopedic), Stanford University. Practice limited to Orthopedic Surgery since 1908. Publications: "Joint Tuberculosis," New York; "Bone and Joint Studies," Stanford Hospital; "Inflammation in Bones and Joints," Philadelphia; articles on bones and joints (50-100 in number) in various medical journals.

chloride, interspersed with three doses of neoarsphenamin, and followed by a course of emetin bismuth iodide. Usually twelve daily injections of 1 grain of the emetin hydrochloride are given, followed by 3 grains of emetin bismuth iodide daily for ten days. The neoarsphenamin is given weekly, beginning with a dose of .45 grammes. The second dose is .6 grammes, third .9 in men, .6 in women. All patients are examined before the treatment by physicians in the medical clinic, and I take this opportunity to acknowledge my indebtedness for their cooperation. For reasons to be presently mentioned the period of emetin bismuth iodide has been reduced to six days. During the treatment the patient is kept on a careful diet, and takes no cathartics. The emetin hydrochloride is usually given intravenously, though recently the plan of giving the first dose of half a grain intramuscularly has been adopted. One patient, an elderly and rather feeble man, had an attack of syncope after the first intravenous dose of 1 grain. This was our only early accident.

As to the effects of emetin:

The healthy adult, especially the male adult, usually has been able to take the full course without apparent harmful effects of the drug. The treatment was administered for about two years without a serious accident. Then one patient, an elderly woman, suffered from a fibrillating heart for several weeks before her death. The necropsy showed arteriosclerosis and myocarditis. At her examination immediately before her treatment her blood pressure was 175/90. She had been a patient at the Stanford clinics for various troubles for some years, and there seemed no contraindication to emetin. Several years previously she had had hypertension and "intestinal intoxication," the latter probably due to an ameba coli infection. She had taken 11.5 grains of emetin hydrochloride—3.5 grains intramuscularly, 8 grains intravenously—and two injections of neoarsphena-

Case	Sex	Age	Diagnosis	Parasites	Complications	Treatment	Result
1	M.	51	Type II spine	Am. coli	Alveo. infect.	Emetin Neoarsphen.	Improvement
2	M.	30	Type II spine	None	Alveo. infect.	Emetin	Improvement
3	M.	56	Type II spine and hips	None	Edentulous	Emetin Neoarsphen.	Improvement
4	F.	59	Type II spine	None	Alveo. infect.	Emetin	Improvement
5	M.	55	Type II spine	None	Teeth (?)	Emetin	
6	F.	50	Type II spine	Butchlii	Edentulous	Emetin Neoarsphen.	Treatment discontinued on account of heart and digestive symptoms
7	F.	52	Type II knee	None	Edentulous	Emetin	Extreme muscular weakness followed treatment. Joint improved
8	M.	63	Type II spine	None	Edentulous	Emetin	Marked improvement
9	M.	63	Multiple type II	Iod. Butsch.	Alveo. infect.	Emetin	Treatment not completed
10	M.	59	Type II shoulder	None	Alveo. infect.	Emetin	
11	F.	38	Type II knee	None	No alveo. infect.	Emetin	Improved
12	F.	52	Multiple type II	Am. coli	Alveo. infect.	Emetin Neoarsphen.	Improvement, but great muscular weakness followed treatment
13	M.	38	Type II spine	Am. coli	No alveo. infect. Prostatitis	Emetin Neoarsphen.	Moderate muscular weakness followed
14	M.	74	Type II spine	Am. coli	Teeth (?)	Emetin Neoarsphen.	No improvement
15	F.	40	Type II knee	None	Alveo. infect.	Emetin	Emetin b. i. was not tolerated
16	M.	60	Type II knee	Am. Coli	Alveo. infect.	Emetin Neoarsphen.	No improvement
17	F.	55	Type II spine	Am. hist.	Alveo. infect.	Emetin	Treatment discontinued on account of heart symptoms
18	M.	49	Type II hip	None	Alveo. infect.	Emetin	Marked improvement
19	F.	64	Type II knee	Am. coli Lutschlii Histolyt.	Edentulous	Emetin Neoarsphen.	Improved, but weak after treatment
20	M.	62	Type II Mult.	Am. coli	Alveo. infect.	Emetin Neoarsphen.	
21	M.	43	Type II Mult.	Am. coli	Teeth (?)	Emetin Neoarsphen.	No improvement
22	F.	50	Type II spine	Am. coli	Previous alveo. infect.	Emetin Neoarsphen.	All symptoms disappeared
23	F.	36	Type II spine	None	Previous alveo. infect.	Emetin	
24	M.	42	Type II spine	None	Alveo. infect.	Emetin	
25	M.	53	Type II spine	None	Alveo. infect.	Emetin	No improvement
26	M.	44	Type II spine	None	Alveo. infect.	Emetin	Improvement
27	F.	50	Type II spine	Giardia	Alveo. infect.	Neoarsphen.	Marked improvement.
28	M.	47	Type II spine	None	Edentulous	Emetin	"Much improved"
29	F.	55	Type II spine	Am. coli	Edentulous	Emetin	No improvement
30	F.	61	Type II hands	Am. coli	Edentulous Carcinoma of breast	Emetin	Improved. Treatment discontinued on account of dyspnoea.
31	M.	60	Type II knee	Am. hyst.	Alveo. infect.	Emetin Neoarsphen.	Improved
32	F.	60	Type II spine	Am. coli	Edentulous	Emetin Neoarsphen.	No improvement. Extreme muscular weakness following.
33	F.	60	Type II knee	Am. coli	Previous alveo. infect.	Emetin Neoarsphen.	Pain disappeared, but much muscular weakness followed
34	M.	63	Type II Mult.	Chilomastix	Edentulous, Prostatitis	Emetin	No improvement
35	F.	65	Type II foot	None	Alveo. infect.	Emetin	Great muscular weakness
36	F.	52	Type II knee	None	Edentulous	Emetin	Weakness; improved.
37	M.	60	Type (?) spine	None	Alveo. infect.	Emetin	
38	F.	51	Type II hip	None	Alveo. infect.	Emetin	
39	F.	39	Type II spine	Am. coli	Alveo. infect. Bartholinitis	Emetin	Did not have teeth extracted. Not improved.
40	M.	41	Type II Mult.	Am. coli	Alveo. infect.	Emetin Neoarsphen.	Marked improvement
41	F.	48	Type II Mult.	None	Alveo. infect. Previous carcinoma of the breast	Emetin Neoarsphen.	Improvement
42	F.	40	Type II spine	None	Alveo. infect.	Emetin	No improvement. Did not finish treatment. Five injections only

Case	Sex	Age	Diagnosis	Parasites	Complications	Treatment	Result
43	F.	45	Type II knee	None	Alveo. infect.	Emetin	Improvement. Muscular weakness followed treatment
44	M.	25	Type II spine	Am. coli	Alveo. infect.	Emetin	Treatment not completed
45	F.	49	Type II spine	End. nana	Alveo. infect.	Emetin Neoarsphen.	
46	F.	60	Type II shoulder	Am. coli	Edentulous	Emetin Neoarsphen.	Improvement
47	F.	74	Type II knee	Am. coli	Edentulous	Emetin	Extreme muscular weakness followed treatment
48	F.	57	Type II knee	Am. coli	Edentulous	Emetin Neoarsphen.	Improvement. Muscular weakness followed treatment
49	F.	43	Type II knee	None	Alveo. infect.	Emetin	
50	F.	46	Type II Mult.	Am. coli End. nana	Alveo. infect.	Emetin Neoarsphen.	Marked improvement
51	M.	53	Type II Mult.	Giardia. Chilomastix	Edentulous Migraine	Emetin Neoarsphen.	Improvement. Migraine also improved. Marked cardiac reaction to emetin
52	M.	56	Type II spine	None	Previous alveo. infect. Infectious antrum	Emetin	Emetin intermitted act. falling blood pressure. Functional cure
53	M.	55	Type II spine	Am. coli Endol. nana	Infectious antrum Edentulous	Emetin Neoarsphen.	Em. bis. iod. discontinued on account of low blood pressure. Slight improvement
54	M.	51		Am. coli	Alveo. infect.	Emetin Neoarsphen.	
55	F.	36	Type I Mult.	Am. histolytica?	Edentulous, ischio-rectal abscess	Emetin Neoarsphen.	
56	M.	48	Type I Mult.	None	Alveo. infect.	Emetin 1 neoarsphen.	Improved
57	F.	40	Type I Mult.	None	Alveo. infect.	Emetin	
58	F.	51	Type II Mult.	None	Alveo. infect.	Emetin Neoarsphen.	
59	M.	50	Type I knee	None	No alveo. infect.	Emetin	Treatment discontinued on account of weak heart. Improvement
60	M.	64	Type II feet	None	Alveo. infect. Intermittent claudication	Emetin	No improvement. Symptoms probably due to intermittent claudication
61	F.	49	Type II knee	None	Alveo. infect.	Emetin	No improvement. Would not have teeth extracted
62	F.	55	Type II knees	None	Edentulous	Emetin	Treatment discontinued on account of rapid pulse, and muscular weakness
63	F.	53	Type (?) foot	Am. coli	Alveo. infect.	Emetin Neoarsphen.	Improvement
64	F.	26	Type I Mult.	None	Edentulous	Emetin Neoarsphen.	Marked improvement. This was one of the cases usually considered hopeless
65	M.	68	Type II feet	Am. coli, Iod. Butsch.	Edentulous Hallux valgus	Emetin Neoarsphen.	
66	M.	26	Type II Mult.	Am. coli	Alveo. infect. Inf. tonsils	Emetin Neoarsphen.	Improved. Patient also had other treatment
67	F.	60	Type II Mult.	Am. coli	Alveo. infect.	Emetin Neoarsphen.	Death (cardiac)
68	F.	68	Type I Mult.	None	Edentulous	Emetin Testicular extract Neoarsphen. Tonsillectomy	
69	F.	63	Type I Mult.	Am. coli	Edentulous	Emetin Neoarsphen.	Improvement. Tonsillectomy
70	F.	12	Type I hips	Chilomastix Giardia Trichomonas Histolytica	No alveo. infect.	Tonsillectomy Emetin Neoarsphen.	Recovery. Return of symptoms after two years; hystolytica found
71	F.	59	Type II Mult.	Am. histolytica	Alveo. infect.	Emetin	Marked improvement
72	M.	43	Type II Mult.	None	No alveo. infect.	Emetin Neoarsphen.	No improvement
73	F.	59	Type II spine	Am. coli	Alveo. infect.	Emetin Neoarsphen.	No improvement. Would not have teeth extracted
74	F.		Type II spine		Alveo. infect.	Emetin Neoarsphen.	Slightly improved. Treatment discontinued on account of muscular weakness
75	F.	34	Type I Mult.	Am. histolytica	Alveo. infect.	Emetin Neoarsphen. Thyroid	Cure. An apparently hopeless case
76	F.	65	Type II knee	None	Alveo. infect.	Emetin Neoarsphen.	No improvement. Treatment could not be carried out continuously on account of marked muscular weakness
77	M.	50	Type II spine	Am. coli	Alveo. infect.	Emetin Neoarsphen.	Marked improvement
78	F.	35	Type II spine	?	Alveo. infect.	Emetin Neoarsphen.	Cure. (Symptomatically)
79	M.	38	Type I Mult.	Giardia Lamblia Am. coli	Alveo. infect.	Emetin Neoarsphen.	Treatment stopped on account of jaundice, vomiting, fever, rapid pulse, etc.
80	M.	40	Spine type ?	Am. coli	Alveo. infect.	Emetin Neoarsphen.	
81	F.	50	Type II Mult.	Am. butsch.	Alveo. infect.	Emetin Neoarsphen.	Treatment stopped on account of diarrhea and muscular weakness
82	M.	60	Type II spine	None	No alveo. infect.	Emetin	Slightly improved
83	F.	37	Type (?) Mult.	None	Previous alveo. infection, hypothyroidism	Emetin	No improvement
84	M.	69	Type I Mult.	None	Edentulous	Emetin Thyroid extract Thymus extract	Marked improvement
85	F.	40	Type I Mult.	Am. butsch. Giardia	Alveo. infect., gc. infection	Emetin Neoarsphen.	No improvement
86	M.	64	Type II sterno-clavicular	None	Edentulous	Emetin	Improvement

min. At the end of this course, lasting about two weeks, she started with emetin bismuth iodide, taking 3 grains each day at 2 a. m. After five days she was reported to be weak and nauseated, and the dose of emetin was cut down to 1 grain. After a few days the emetin was discontinued, and the patient entered the hospital with an intermittent pulse. She died eighteen days later, thirty-six days after the administration of emetin was begun.

After this fatality the daily practice of taking the patient's pulse and blood pressure during the emetin treatment was instituted, and of having an electrocardiogram before treatment was begun. There is a frequent fall in the blood pressure, and a frequent rise in the pulse rate. Either one is an indication to discontinue the emetin, temporarily at least. Dr. J. K. Lewis of the medical clinic and Dr. T. R. Haig of my clinic have this work in charge, and should be able to report some interesting results.

Some patients complain of temporary nausea immediately after the emetin is administered, and in several patients, mostly women, nausea and diarrhea have necessitated the discontinuance of the treatment.

The most frequent symptom following emetin, or coincident with its administration is the marked muscular weakness, which occurs most often during the time the patient is taking pills of emetin bismuth iodide. Sometimes the patient complains bitterly of this weakness, and although at first not inclined to pay much attention to it, I now consider it is important enough to cause the immediate discontinuance of the drug. Sometimes the weakness lasts for weeks after treatment is finished.

As to the effects of this treatment on the intestinal parasites, it is hard to speak positively. In a reasonable proportion of the patients followed up and reexamined, but not in all, the parasites had disappeared. I have lost all confidence in the efficacy of emetin in giardia infections, and now rely instead on three doses of neoarsphenamin at two-day intervals. With this treatment both successes and failures must be acknowledged. However, my primary interest is the efficacy of the treatment, not on the amebiasis, but on the arthritis.

Results on the arthritis side of the problem are shown in the synopsis. A considerable proportion of the patients cannot be located, and the results in them are consequently unknown. The symptoms of one patient evidently came from his intermittent claudication, and naturally did not yield to emetin. The anatomic changes in a second type arthritis are permanent. No treatment will ever restore the normal cartilage and bone, but if the symptoms disappear the treatment is worth while.

I have seen a patient with a severe second type arthritis of the hip, apparently doomed to resection, lose his pain, and go back to work, after the treatment here outlined, and after he had been told that the disease was too far advanced to expect help.

I have records of a number of patients with multiarticular involvement of the apparently hopeless variety who have been cured or markedly helped, and these are the patients who have tried everything others could offer. On the other hand, several patients of this kind derived no benefit whatever from the treatment.

The ordinary first type arthritis apparently has nothing to do with amebiasis. It is bacterial in its origin. There is a form of progressive multiarticular first type involvement, however, the kind which usually attacks young women, the American "arthritis deformans," which I believe to be caused by intestinal parasites, and assume that the inflammation is in the synovial membrane, and that the bone, not being attacked, does not react in the characteristic manner. When I see a patient afflicted with this disease recover, I must believe either that I am witnessing a miracle, or that the parasiticide drugs have cured. In the old days these patients did not recover. They slowly became worse, bedridden, and died after a longer or shorter time. There was no such thing as spontaneous recovery. Many of my second type patients are improved, some are symptomatically cured, some are not improved at all.

CONCLUSION

1. Emetin is a dangerous drug, affecting the heart, intestine, and muscles.

2. When cautiously and intelligently employed emetin has a distinct value in the treatment of chronic arthritis.

3. After an experience of almost two and a half years I shall continue to employ emetin in selected cases of arthritis.

SPECIMEN CASES

Mrs. H. T. E., 34 years of age, housewife. Chronic multiple first type arthritis.

This patient came to me from Doctor Heller of the Pueblo Medical Group. The case had been worked up thoroughly by Doctor Heller, who had also treated her most intelligently with the standard means. She had had from him and others diverse and thorough treatment, and had also gone the usual rounds of osteopaths and baths. The patient brought with her an excellent history showing that no pains had been spared in the matter of scientific investigation. The only things that I could discover in addition were that her thyroid was slightly enlarged, that she had two dead teeth, and that her stools contained amebae histolyticae. She received the full treatment with emetin hydrochloride, emetin bismuth iodide, and neoarsphenamin. She complained of weakness after about six doses of emetin hydrochloride, and the treatment was stopped for three days. At the end of the treatment her stools were negative, but she still had considerable pain. The joints looked better than at first. After about three weeks of thyroid extract and heliotherapy the joints were much better, but were still somewhat sensitive. I then gave the patient another course of parasiticide treatment. At the end of this she departed for her home apparently completely cured.

Mr. C. A. E., 41 years of age, pipe-fitter. Multiple, chronic second type arthritis. Duration of disease eighteen years, starting in the left foot and then involving the wrists, fingers, the ankles, toes, the neck, and the knees. This patient had been treated in many places, including some of the large clinics in the East. The only significant findings we made in his case were the presence of one dead and two abscessed teeth, and the presence of amebae coli in his stool. He received the usual treatment of twelve intravenous injections of 1 grain emetin hydrochloride, interspersed with neoarsphenamin, and followed with 3-grain doses of emetin bismuth iodide for ten days. At the end of the treatment the patient was enthusiastic about the result. The x-ray pictures in this patient's case showed very extensive damage to the joints. Both this patient and the preceding one were apparently hopeless cases.

To see a friend steadily and to see him whole is no little achievement. Ernest Sutherland Bates, Saturday Review.

ANALYSIS OF SURVEY ON DIABETES IN CHILDREN

By Francis Scott Smyth *

The prognosis of juvenile diabetes before the introduction of insulin was invariably fatal. Since the advent of insulin the outlook is far more hopeful, and certain patients have shown some recovery of tolerance. The treatment should include the optimum caloric and protein intake and a safe fat-carbohydrate ratio. Vitamins should be emphasized, cod liver oil, green vegetables, and heliotherapy are advocated. Insulin should be given in sufficient amount to keep the blood sugar approximately normal even to the risk of occasional hypoglycemia. All foci of infection should be removed. All children with doubtful symptoms should have a glucose tolerance test, elimination of foci of infection, and should be kept under observation for an indefinite period as is done with congenital luetics.

Discussion *by Horace Gray, Santa Barbara; William W. Belford, San Diego.*

LITERATURE about juvenile diabetes is scant. This is partly the result of inaccurate methods of diagnosis and partly the disinterest due to the fatal prognosis invariably found before insulin was available. Such patients as were seen or reported before the use of insulin usually showed a pitiful picture of malnutrition and dwarfism.

This study of diabetic patients from the University of California and Children's hospitals is a review of the possible factors responsible for diabetes, contrasting the prognosis under modern treatment with that found in the preinsulin period. Thirty-one patients are listed under the diagnosis of diabetes, of which nineteen were true diabetics. In the remaining twelve the diagnoses are questionable and they are included as border-line cases, three of whom had symptoms of diabetes insipidus. Inasmuch as the symptomatology of all the border-line cases was very similar to that of the true diabetic onset, and since the early diagnosis of diabetes is most essential, the border-line cases represent a very important class for preventive work and follow-up.

Review of Cases—Of the 19 unquestionable diabetics 5 were females and 14 males, which very closely approximates the generally recognized sex proportion of 3.1. The oldest patient was 13 years, the youngest 2 years, four being under 4 years of age. Five gave a positive family history of diabetes. The remaining fourteen had no such history, though of course, the accuracy with which a history was obtained was variable and in no instance was an adequate history of events subsequent to diagnosis obtained. Of the 5 with positive family histories only 1, a sister, was of the patient's generation; 3 of the 5 were in males and 2 in females. These familial histories are of interest in view of the proportion Hansen has reported in his recent article on the rôle of heredity in diabetes and which is in contrast to the findings of Knox, who claims in his report on diabetes in infancy that heredity plays but little part.

In addition to the family history the following possible predisposing causes were obtained from the patients' records: two cases of congenital developmental failure, one had obvious glandular dystrophy and the other cleft palate, which is simply taken as a possible indication of other maldevelopments. Three patients showed previous dietary disorders, two of excessive carbohydrate and one of prolonged difficult feeding. The rôle of acute infections, discussed in detail below, is indicated by the following figures: upper respiratory infections (tonsils) 7, influenzal attacks 2, exanthemata 23, measles 9, parotitis 4, varicella 4, pertussis 4, scarlet fever 1, diphtheria 1, gastrointestinal upset 4, frequently accompanied by severe abdominal pain of possible significance in involvement of the pancreas.

Primary symptoms varied with the adequacy of parental observations. For example, it would be supposed that polydipsia would precede emaciation as the first symptom. However, 4 showed polydipsia as the first symptom, 5 fatigue, 3 polyuria, enuresis or nocturia, 3 loss of weight or emaciation, 1 complained of itching skin and in 1 glycosuria was accidentally discovered unpreceded by observed symptoms, in 2 no record was made of primary symptoms. The fully developed symptomatology included polyphagia, polydipsia, polyuria, and loss of weight in all but three patients, in whom polyphagia was not found; these were all under 7 years of age, two males and three females.

Focal Infections—A striking finding was the presence in sixteen of chronic foci of infection, tonsils 12, teeth 4, sinuses 2, middle ear (otitis media) 2, skin 2, mastoid 1, vaginitis (nonspecific) 1, not reported 3. Attempts at removal of the foci of infections were made in five. It is reasonable to assume that infection materially handicaps the recovery of autogenous tolerance and that the prognosis is infinitely improved by removing the foci.

The *treatment* of the nineteen patients was so varied that except for the advent of insulin a summary would be too detailed. Follow-up records show that 8 are dead, 10 alive, and 1 patient was not located. Of the patients who died five had never received insulin. The one not found was in the preinsulin period and is assumed to have shared in the 100 per cent mortality of the five patients treated before insulin was available. Of the three deaths which occurred subsequent to the use of insulin one died in coma after 10 units of insulin had been given for a 10-year-old child with a .5 blood sugar. In another patient the parents refused to allow insulin after discharge from the hospital and the child died in coma at home. The third patient was allowed frequent dietary indiscretions by the parents and also received insulin irregularly; death in coma occurred at home.

The highest blood sugar recorded on entry was .760, lowest .228; highest CO_2 on entry 36.8, lowest 15.2.

Border-Line Cases—Of the twelve border-line cases there were nine males and three females, which

* Francis Scott Smyth (206 Judah Street, San Francisco). M. D. University of California, 1922; A. B. University of California, 1917; M. A. 1921. Graduate study: Boston Children's Hospital, 1922-23; N. Y. Nursery and Child Hospital, 1923-24; St. Louis Children's Hospital, 1924-25. Previous honors: Fellow at Hooper Research Foundation, 1919-20. Hospital connections: Executive Officer Dept. Pediatrics, Univ. of California. Scientific organizations: San Francisco County Medical Association; California Medical Association. Appointments: Asst. Professor of Pediatrics, University of California. Publications: (F. S. Smyth & G. H. Whipple) "Metabolism of Bile Acids," Jour. Biol. Chem., Vol. 59; (F. S. Smyth & W. P. Lucas) "Blood Studies in Newborn," Amer. Jour. Dis. Children, Vol. 22.

again agrees with the generally accepted findings. The oldest patient in this group was 14 years and the youngest 14 months. There was a family history of diabetes in three females and three males; one in the fourth generation, four in the third generation, and one in the preceding generation. Of predisposing causes other than heredity there were four with congenital developmental failure of whom three had obvious glandular dystrophy and one had mental deficiency. Acute infections were as follows: upper respiratory 4, influenza 1, pneumonia 1, gastrointestinal upsets 2, measles 4, scarlet fever 1, pertussis 3, and diphtheria 1.

Primary symptoms: Eight had polyuria, 2 polydipsia, 1 fatigue, and in 1 glycosuria was accidentally discovered. Entire symptoms: 1 developed polyphagia, polyuria and polydipsia, and 3 had glycosuria; loss of weight was fairly common.

Focal infections included chronic diseased tonsils 6, dental caries 3, sinus infection 1, and not recorded 2.

The Follow-Up—Two of the twelve under observation became definitely diabetic, one had a diabetic syndrome associated with glandular dystrophy, two had a definite glandular dystrophy unassociated with complete diabetic symptoms, two are still under observation, two have made apparent recovery, and three have not been heard from.

Laboratory Findings—Blood sugars on entry were all within normal limits. A glucose tolerance test was done in eight, four were diabetic in character and two of these later became the true diabetics, two are still under observation but the glucose tolerance has as yet not been repeated, three were atypical tests but not diabetic in character (two of these became definitely glandular troubles, one a glandular dystrophy with diabetic symptoms), and one was normal. In one of the patients (L. H.) in whom diabetes was later diagnosed a tonsillectomy was done, and it is interesting to note the improvement in the glucose tolerance test subsequent to tonsillectomy, but before the final diagnosis of diabetes was made.

Discussion—The factors responsible for diabetes are not definite, but certain influences probably contribute to its production. The well-known racial predisposition to the disease in Hebrews decreases in American and European Caucasians, and is seen less frequently in the colored races. Certain definite familial tendencies are seen, but this does not follow the Mendelian laws of inheritance in any clear-cut manner (Hansen, Ungesk. f. Laeger. 86:341-44, 1924). Faulty diet has been frequently suggested as being etiologically important in diabetes. Modern civilization, with its ever increasing consumption of concentrated carbohydrate foodstuffs, might be held accountable for the increasing incidence of the disease. A long-continued overbalanced carbohydrate diet may materially affect the tolerance of carbohydrates, and two of our diabetics gave such a history. Many diabetic patients show a definite relation to acute infections. This is well illustrated in the cases reported by Stengel (Contributions to Med. and Biol. Research, dedicated to Sir William Osler, 2:1186, 1919) in which the diabetic syndrome appeared and disappeared with recurring infections. Some patients give a history of infection preceding the symptoms of diabetes, though as a rule the damage from the infection is so severe as not to be relieved when the infection disappears. Reasoning from the reaction of diabetics to infections incurred subsequent to the onset of the disease we are at once confronted with the strikingly deleterious influence of infection on pancreatic function. The peculiar finding of Holsti (Ztschr. f. Klin. Med., 20:272, 1892) in which influenza preceded the onset of diabetes in many of the patients studied, and the findings of Schloss (personal communication) of disturbed carbohydrate metabolism in influenzal infection might indicate some specificity with regard to its influence on the pancreas. Profound ketosis is encountered with seemingly light influenzal infections of the upper respiratory tract. Of the acute exanthemata, mumps has perhaps been most often found in association with pancreatic upset. Garrod (Lancet, 1:557, 1912) has reported twenty-two cases of mumps with diabetic symptoms, and Patrick (British M. J., 2:802, 1924) has also reported acute diabetes following mumps. However, diabetics are seen in whom none of the above mentioned influences operate.

We are more or less forced to assume that there may be individuals in whom diabetes represents a failure of development of pancreatic tissue somewhat analogous to thyroid subdevelopment. Pathological studies substantiate this in some cases, but in many we are unable to correlate the pathological picture with the clinical dysfunction. Osler (Modern Medicine) reported persistent glycosuria in a newborn. The well-known association of diabetes with internal gland disorders is again indicative of congenital maldevelopment. Inasmuch as we frequently find congenital anomalies together, we are not surprised at the findings of at least one such congenital defect in our series. Poynton and other English writers have also noted the occurrence of diabetes with celiac disease, which also probably represents a congenital developmental failure. In the presence of such a congenital pancreatic failure a seemingly slight infection might bring the latent diabetic symptoms to their threshold.

In infants and young children diabetes is often ushered in with an acute gastrointestinal upset. Vomiting and diarrhea may be characteristic, and the abdominal cramp-like pains may be of significance with regard to pancreatic involvement. With the subsidence of the gastrointestinal symptoms, increased thirst and polyuria may persist, and if the significance is not quickly recognized, may lead to a rapid and fatal termination. Unlike adults a failing appetite may be associated with diabetes in younger children, and parents are prone to ascribe emaciation, which is a common finding in this disease, to the failing appetite rather than its true cause. The skin becomes very dry and occasionally xanthoma may be found. In children polyuria is perhaps the first symptom noticed by the parent, who may have been attracted to the condition by bed wetting or enuresis. In one case which came under my observation the parent first noticed the crystalline appearance of the dried urine around the toilet. In general, however, after 7 years of age

the diabetic child's full symptoms are similar to those of the adult.

DIAGNOSIS

In the presence of the classical symptoms, polyuria, polyphagia and polydipsia with marked loss of weight, the persistent reduction of Benedict's solution by the urine is sufficient to assure the diagnosis. However, since the classical symptoms may be lacking in infants and young children, and since the prognosis depends so largely on an early recognition of the disease, an effort should be made to rule it out whenever there is the slightest suspicion of diabetes. This is possible through the newer methods of laboratory diagnosis. Glycosuria itself is not sufficient evidence for a diagnosis, as this may appear in a variety of other conditions, for example, alimentary glycosuria, pentosuria, renalglycosuria, concentrated urine, anhydremia, chronic nephritis, and cachexia. A single blood-sugar estimation is likewise insufficient evidence for a diagnosis, though perhaps it is of more value than ordinary urinary tests since there may be a high renal threshold. The accurate diagnosis of diabetes rests on the glucose tolerance test by which these other disturbances may be ruled out. Blood-sugar estimations are of value in the control of insulin therapy. With the development of diabetic acidosis, further analyses are of value. The carbon dioxide content of the plasma gives an index of the degree of acidosis far more accurately than the qualitative test for ketonuria.

TREATMENT

Before the advent of insulin the outlook for infants and children with diabetes was almost hopeless. Through properly administered insulin and a regulated diet the prognosis has been greatly improved. Certain aspects of the treatment differ from that in the adult. In children we have growing organisms with a greater caloric requirement and a growth requirement which must be met with sufficient food. They may be capricious in their appetites and devoid of an appreciation of the nature of their ailments. A treatment which does not permit as normal a development as possible is not wholly successful. Since the introduction of insulin the prolonged starvation treatment has not been necessary and more nearly normal development is therefore possible. A diet must be obtained which is sufficient as to calories and nitrogen content, palatable and safely balanced in antiketogenic ratio, and it must be remembered that this latter is subject to individual variations (Levine and Wilson, Am. J. Dis. Child., 31:323, 1926). With such a diet sufficient insulin must be used to keep the blood sugar within normal limits.

The initial insulin dosage is reckoned from the blood-sugar content. The body fluid will approximate two-thirds of the body weight. The excess sugar over the normal content can then be ascertained and insulin given to metabolize this. As a rule the excess blood sugar if metabolized by sufficient insulin will take care of the acidosis present. In extreme acidosis, however, additional therapy may be required. Where there is marked dehydration and anuria a hypodermoclysis of saline should be followed by the intravenous administration of a glucose solution. Joslin has criticized the use of intravenous glucose, but its function in this instance is not so much for its antiketogenic action as for the more rapid absorption of the necessary fluid and a very prompt stimulus to diuresis. Another disputed therapeutic measure is the use of sodium bicarbonate. In acidosis when the CO_2 content of the blood is reduced the administration of sodium bicarbonate will raise it. In the average patient with only a moderately reduced CO_2, insulin alone is sufficient to metabolize excess ketone acids and raise the CO_2, in which case administration of sodium bicarbonate would merely confuse the picture. Where, however, the CO_2 is less than 15 volumes per cent, there may be an actual depletion of the base in the blood, and sodium bicarbonate administration would then be indicated.

The diet is based on the ideal weight, the caloric requirements and nitrogen need for weight and age. From the nitrogen (protein intake) the minimum carbohydrate necessary to prevent ketosis may be reckoned from Shaffer's formula, although we have found that patients may show an individual variation in the ketogenic ratio. Palatability often demands a slightly greater amount of carbohydrate than the calculated minimum, since the diet must be made agreeable for the patient. The fat content of the diet is fairly high but safe, and gives very satisfactory results. The vitamin content of the diet is emphasized. Cod liver oil and greens are essentials. In infants special formulas with reduced sugar, curds, etc., must be used. Continued treatment and favorable prognosis demand strict adherence to the diet and analysis of each individual specimen of urine. While in the hospital blood sugars are obtained from time to time by which the renal threshold is approximately estimated, and though this is subject to variation it is of value in the further treatment of the patient.

In infants insulin shock must be carefully guarded against. Drowsiness or marked perspiration are perhaps the most common early findings. If orange juice is not promptly administered they may develop convulsions or coma. In older children the subjective symptoms may be indicative of the imminence of a hypoglycemia, but one should be on the lookout for malingering. Nevertheless, if possible, the blood sugar should be kept low, even running the risk of hypoglycemia if the maximum regeneration of the pancreas is to be expected. Ulrich (J. A. M. A., 83:1914-1915, 1924) even recommends hypoglycemia as allowing the maximum regeneration. Any foci of infection such as the teeth, tonsils, and sinuses should be properly treated, and invariably the response in tolerance justifies these measures. The occurrence of a high per cent of upper respiratory infections has been shown in this study, and those patients who had the foci removed showed a distinct increase in carbohydrate tolerance. While in the hospital, Alpine lamp treatments are advisable, and sun baths are advocated on discharge.

PROGNOSIS

The prognosis of diabetes in children treated with insulin is yet to be written. So far the results have

been very encouraging. The previous starvation and low calorie diet treatments were invariably accompanied by malnutrition and poor development. Allen still adheres to his "undernutrition" treatment since the advent of insulin. I feel that although the Allen treatment was an improvement over methods previously in vogue, undernutrition *per se* is not an asset but a hazard. Overweight is not advocated, but the child should be approximately at its ideal weight. With adequate diet and insulin they approximate normal development. Infections and major operations may be tolerated without extreme danger.

With regard to their recovery of carbohydrate tolerance certain features are important. The earlier the treatment is started the better the chances of recovery of tolerance. Acutely ill patients promptly treated usually show a more rapid recovery than those of longer duration. The elimination of foci of infection materially improves tolerance. Finally, a strict adherence to diet, sufficient insulin to keep the urine sugar-free and the blood sugar normal undoubtedly offers a better chance for the organism to repair the damaged tissue. There is considerable indication from experimental studies (Copp and Barclay, J. Metabolic Research, 4.445-51, 1924) to justify the assumption that insulin may act somewhat like a splint to a fractured limb, affording a chance for regrowth of insulin forming tissue if properly applied.

SUMMARY

The prognosis of juvenile diabetes before the introduction of insulin was invariably fatal. Since the advent of insulin the outlook is far more hopeful, and certain patients have shown some recovery of tolerance. The treatment should include the optimumcaloric and protein intake and a safe fat-carbohydrate ratio. Vitamins should be emphasized, cod liver oil, green vegetables and heliotherapy are advocated. Insulin should be given in sufficient amounts to keep the blood sugar approximately normal even to the risk of occasional hypoglycemia. All foci of infection should be removed. All children with doubtful symptoms should have a glucose tolerance test, elimination of foci of infection, and should be kept under observation for an indefinite period as is done with congenital luetics.

I wish to thank members of the staff of the Children's and University of California hospitals for courtesies and help to make this study useful.

DISCUSSION

HORACE GRAY, M. D. (Santa Barbara Clinic, Santa Barbara, California)—Passing over the three patients with diabetes insipidus, which is hardly related to diabetes mellitus, there remain nineteen cases diagnosed definitely diabetes mellitus and nine called *questionable*. This last group is interesting both because it forms so large a fraction of the whole series reported and because doubtful and cured cases in children have curiously enough received very little attention in the literature. Probably all nine cases, certainly the two border-line cases "having made apparent recovery," would be worth tabulation in respect to their symptoms at the worst stage observed, for example, the highest degree of glycosuria and of hyperglycemia found in each case.

The cases with onset following *gastrointestinal* attacks, especially the four with abdominal pain, again form a group of special importance, inadequately covered in the literature. Tabulation of these would be interesting, especially as regards the interval between the gastrointestinal upset and the diagnosis of diabetes.

The *blood sugar* maximum 0.760 and minimum 0.228 per cent seem high in view of the frequent observation in children of low blood sugar with even severe glycosuria. A table of the blood sugars found in the twenty-eight patients would therefore be worth having on record.

Regarding the distribution of *diet* in children, Doctor Smyth appears to favor the minimum carbohydrate, in other words, a high fat diet. It might be of interest to report the average diet given to his children expressed in grams of carbohydrate, protein, and fat per kilo of body weight, thus permitting comparison with diets fed in other clinics.

The rôle of *acute infections* as stated in the paper gives the impression that there were fifty-nine cases in the series or else that several patients had several infections in the past. The latter seems to the reviewer of no significance because, if the infections named merely occurred at some time in the past history of the children, their connection with the diabetes seems too vague to be worth discussing. One would prefer to know the name of the infectious disease, if any, which occurred within three (or perhaps six) months before the onset of the diabetes.

The *sex frequency* noted is striking in view of the statement on page 125 of Joslin's book that only 57 per cent of the cases were males, both in his series and in that of Schmitz, which are by far the largest series reported; and that among the diabetic deaths in the United States only 45 per cent were males.

WILLIAM W. BELFORD, M. D. (Electric Building, San Diego)—The absence of the characteristic symptoms of diabetes in so many cases, both the proven and the border-line, and especially in the primary symptoms of those patients under 7 years, is striking. Careful routine urine examination is to be emphasized.

Doctor Smyth's outline of treatment works admirably. The calculation of the diet is simple and the amount of protein, fat, and carbohydrate is such that the diet is quite palatable. That tolerance of some degree is recovered is hardly to be doubted when one sees smaller and smaller doses of insulin given and the patient showing no glycosuria. Those with no tolerance or "total" diabetics are difficult to keep sugar-free and often have insulin reactions. Lapses in the care of the prescribed diet or the occurrence of an infection rapidly lowers the recovered tolerance which is not regained, all too often, when the diet is corrected or the infection overcome.

That the simplest foci of infection are not to be ignored in the diabetes of childhood cannot be too strongly stressed. Carious teeth, infected tonsils or sinuses must have attention before the tolerance for carbohydrates is completely lost. As to prognosis, it is by no means bad when the parents are thoroughly co-operative. When a boy of four weathers an acute appendicitis with peritonitis, one is well pleased. It is truly remarkable when it is learned that this same sturdy boy has been a total diabetic since the onset of the disease before 2 years of age and, in addition, has had bronchopneumonia and otitis media. Diet and insulin regulations were religiously followed by the mother, and the boy suffered no particular hardship.

DOCTOR SMYTH (closing)—The diabetes insipidus cases were included in the group because on admission they were diagnosed diabetes mellitus and as such presented certain symptoms similar to diabetes mellitus.

The above series of cases is so small as not to be comparable to the larger summaries of Joslin and others. A table of blood sugars for the entire group would be extremely valuable, but as some of the material was taken from records of several years past, accurate data were frequently wanting. Acute infections, especially if occurring in succession, appear to us of more than vague significance, although the time relation to the onset of diabetes sometimes should be mentioned.

As to diet distribution in children, it has been our plan to use fairly low carbohydrate. It was mentioned that the individual ketogenic ratio is the guide to the fat adjustment. We believe the possibility of reducing the insulin to a single injection or even eliminating it altogether is greater with low carbohydrate diets. This materially

aids in the prognosis where subsequent care is entrusted to the family. Where, however, the requirement for carbohydrate and the severity of the case require large doses of insulin, the patient resembling a chronic adult diabetic, there would be no contraindication for the high carbohydrate values as advocated by the Santa Barbara clinic. In children, however, the chances of recovery of autogenous tolerance seems to warrant a lower carbohydrate intake with corresponding lower insulin requirement.

LIVING TRICHINELLA THIRTEEN YEARS OLD

By NEWTON MILLER *

(From the School of Medicine, University of Utah)

DISCUSSION *by Marshall C. Cheney, San Francisco; Alfred C. Reed, San Francisco; John V. Barrow, Los Angeles; Robert T. Jellison, Salt Lake City, Utah.*

THE biology of this species is interesting and complicated. The adult males measure 1 to 1.5 mm. and the females 3 to 4 mm. in length. They are slender and taper from posterior to anterior end, which is pointed. The adults live for a few weeks at most in the intestines of carniverous mammals, usually the rat, mouse, hog, or man. Here they mate; the males soon die and the females, after burrowing into the intestinal mucosa, give birth to many young, estimated at 1500 or more each. The larvae, thus discharged into the mucosa and submucous lymph, eventually reach the blood by way of the thoracic duct and are carried to all parts of the body. They leave the capillaries in the voluntary muscles and wander out among the muscle fibers. Others perchance reach the muscle by way of the lymph vessels or directly by burrowing through the tissues. After reaching the muscles, especially the diaphragm, intercostals and the muscles of the neck, tongue and eyes, they penetrate the sarcolemma, coil up and become inactive. Some are said to become imbedded among the muscle fibers. The invaded muscle fibers degenerate, connective tissue capsules form about the larvae and these capsules later become calcified. Thus imprisoned they may remain alive but inactive for months or years until the death of the host after which they may be eaten with the flesh of the host. The mammal ingesting the infected flesh of the first host becomes a second host for the encapsulated worms. The calcareous capsules are dissolved by the gastric juice in three to four hours and the worms set free to be carried into the intestine. Here they grow, reach sexual maturity in three to four days, mate and produce a brood of larvae which will become imbedded in the muscles of this host. The adult males die in a few days after being liberated in the stomach, and the gastro-intestinal tract is free of both larvae and adults in about six weeks. Thus the cycle has been and may still be repeated *ad infinitum*. Rats are common carriers and, since they frequently eat their own dead, the trichina life-cycle can be repeated indefinitely within the bodies of these rodents. Among the animals devouring rats are the hogs. We learn from United States reports on meat that 2 to 3 per cent of all pork marketed for exportation is infected with the trichinae. Fifteen per cent of all hogs raised in some localities within the eastern states are said to be parasitized. The human being eats pork and thereby hangs a tale.

Thirteen years ago Mrs. E. L., then a girl of 18, and her sister living in Laramie, Wyoming, ate some improperly prepared pork sausages. In fact they had eaten of the sausage on their way home from the meat market. The girls experienced no immediate ill effects, but on the fourth day both developed severe abdominal pains and cramps accompanied with severe diarrhea. The elder sister recovered from these symptoms in eight or ten days and has suffered no subsequent ill effects. The younger sister, Mrs. E. L., had scarcely recovered from this attack when she experienced further distress, as stiffness and intense generalized pain in the muscles very similar to acute muscular rheumatism, accompanied by marked anemia, puffiness of the face, edema of limbs, and fever. The condition became severe and the life of the girl seemed jeopardized. However, during the fourth or fifth week after eating the sausage the muscular pain and tenderness began to subside and eventually disappeared completely.

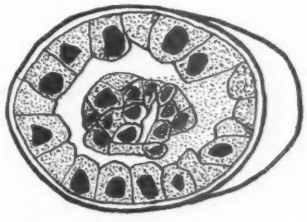

Fig. 1—Camera lucida drawing of a cross section of a T. spiralis removed from Mrs. E. L. X 1500.

The girl grew to womanhood, married and raised a small family. She has not suffered any further pain or discomfort incident to the infection of thirteen years ago. The lady, now Mrs. E. L., entered the Salt Lake County General Hospital November 9, 1923, for the purpose of undergoing an abdominal operation. In taking the routine history the above-mentioned data were obtained which are given as the patient recalled the events. The operation was performed November 15, 1923. An examination of the incised muscle (right rectus abdominis) revealed to the naked eye the capsules of the encysted worms in abundance. In fact the meat inspector's expression "measley pork" could well be paraphrased "measley homo" and applied to this patient.

A piece of the right rectus was excised and more carefully examined. An estimate of fifteen to twenty worms per cubic centimeter of muscle was made. Pieces of the muscle, after being treated with dilute hydrochloric acid, were teased and examined microscopically. The outlines of the entire worms were nicely revealed, and it was plainly evident that the worms had not been absorbed nor were they calcified.

The next question then arose, were the worms still alive? To answer this question other pieces of the muscle were prepared by the usual histological tech-

* **Newton Miller** (Salt Lake City, Utah). M. D. Rush Medical College, 1924; A. B., 1905 and A. M., 1906, Indiana University; Ph.D., 1908, Clark. Appointments: Professor of Microscopic Anatomy at the University of Utah Medical School. Practice: General. Scientific organizations: Salt Lake County Medical Association, Utah State Medical Association, American Medical Association. Publications include a number of papers upon biological subjects, and among those that have a direct medical bearing are: "Gummata of the Heart," "Anastomoses of Arteries and Veins in a Cat," "Reproduction in the Brown Rat."

nique for microscopic examination in order to determine the status of the vermian cells. The outlines of the cells were distinct, the nuclei were intact and stained deeply, and the general appearance was that of recent living tissue. Had these worms been dead for a few days or longer their cells would have lost their clear outlines and the nuclei their staining property. If dead for a long time they would have been absorbed or calcified. The camera lucida drawing, Figure I, gives a fair idea of the histological condition of these worms. The worms were evidently alive when removed from the patient's body.

The lady is still alive. How much longer will the worms live? Ziegler mentions cases in man where the larvae were still alive eighteen to twenty years after the infection. Chandler states "there are records of these worms found living in cysts in hogs eleven years after infection and in man twenty-five to thirty-one years after, though it is doubtful whether in some of these cases a fresh infection did not occur." Concileman gives twelve years for the length of life in man and eleven to twenty-four years in the hog. In the case of Mrs. E. L. there has been no evidence of reinfection. We therefore feel justified in stating that we have a clear case of larvae trichinella thirteen years old, still alive in living human muscles.

DISCUSSION

MARSHALL C. CHENEY, M. D. (2251 Telegraph Avenue, Berkeley)—It is interesting to note that, even though alive in the muscles for thirteen years, the trichinellae larvae produced symptoms for only a few weeks, immediately after the invasion of the tissues. This is not always the case, as soreness and stiffness may persist more or less indefinitely. We are indebted to Doctor Miller for this case history which draws our attention again to the fact that human trichinosis simulates acute nephritis. An eosinophilia and the absence of typical urinary findings should suggest the possibility of a worm infestation. Absolute diagnosis is made by microscopic examination of a piece of excised muscle. As the period of acute illness can be greatly shortened by appropriate treatment with intravenous antimony and potassium tartrate, the possibility of trichinosis should be kept in mind and the tests made to apprehend the worms. From the standpoint of prevention, we should all heartily endorse all measures for the eradication of rats, the careful inspection of pork, and public enlightenment on the dangers of eating raw meat.

ALFRED C. REED, M. D. (380 Post Street, San Francisco)—Doctor Miller's paper emphasizes the need of keeping in mind trichinosis as a rare but always very possible condition in ordinary clinical work, gastrointestinal disturbance, with localized pains and edemas, irregular fever, and eosinophilia usually mean this diagnosis. Careful study of the blood and at times the spinal fluid will often reveal the larvae in the invading stage before intramuscular encystment. The tendency toward small epidemics, the high mortality reaching even to one-third of those ill, and the difficulty of effective early treatment, make this a disease demanding quick recognition. It is interesting to note that some years ago Dr. Herbert C. Moffitt recommended small doses by mouth of tartar emetic in treating the acute invasive stage. In the American Medical Journal, August 1, 1925, Grove reports a most interesting case in which apparently clinical cure followed the intravenous use of tartar emetic. This drug is now used in a number of tropical and parasitic diseases intravenously with virtually specific results. With proper technique it is safe. I would be greatly interested in fully reported cases where it is tried early in trichinosis.

JOHN V. BARROW, M. D. (2007 Wilshire Boulevard, Los Angeles)—Doctor Miller is to be congratulated on giving us a very helpful clinical research observation in the line of parasiteology. In my own experience the only helpful thing I can add is the fact that I have not had a case either in my own practice or in the general hospital work over a period of years. This disease is often confused with typhoid fever, and the disease here presents itself neither as a complication nor a differentiation. On the typhoid service of several years we have observed the cases rather closely for this disease in the cases that showed need for differentiation.

ROBERT T. JELLISON (Deseret Bank Building, Salt Lake City)—The case report by Doctor Miller is indeed one of interest. The demonstration of the live larvae trichinella after so many years brings up the question as to how great a percentage of cured cases might give the same findings if carefully followed up.

The mortality rate of 5 per cent is not high considering the number of cases reported, but this includes all mild cases in which the dosage of parasites was low and the toxemia moderate.

A few years ago a number of cases came under my observation. They were not severe, although their course ran from two to six weeks. The temperature ranged from 101 to 105 and was remittent in character. Gastrointestinal disturbances occurred early; all showed a leucocytosis with an eosinophilia from 15 to 46 per cent. The trichina spiralis were demonstrated. No fatalities. No complications. Treatment used was purgation, intestinal antiseptic, and neosalvarsan 6 to 9 grains, three days. Four doses was the highest amount given. No follow-up examinations could be made.

"In every society some qualities are valued and supposed to be admirable and good, and are selected and rewarded accordingly. Hence the lucky possessors of these qualities are highly remunerated and enabled to rise in the social scale.

"Social promotion is thus the reward of whatever merits a society chooses to recognize.

"But this reward of ability is also its capital punishment.

"For as it rises it passes from a social region in which the birth rate is relatively high and the prospects of parentage are comparatively good to others where the birth rate gets lower and lower.

"The higher it gets, therefore, the more it tends to be sterilized.

"Thus the particular kind of ability a society recognizes, the cream the society wants, is always rising to the top; but when it gets there, it is always being skimmed off and cast away.

"The civilized state is continually pumping up from the lower strata the particular sorts of ability that are valued, concentrating them in the upper strata, and there destroying 50 per cent of them in every generation."—F. C. S. Schiller.

If the men and women of today wish to retain the family approximately in its present form, they can keep it much as it is now. But to do so they will have to make tremendous alterations in some of the most powerful tendencies of our economic and social life. If they wish to adapt it to these changing conditions they should not delay the foresighted fashioning of some development in which it can function without too great loss of its invaluable services. For nothing is surer than that if it is left alone modern life will soon mangle it into a ruin fit only for the rubbish-heap.—Florence Finch Kelly, Century Magazine.

The growing prestige and power conferred on public health officials bring with them new and greater responsibilities together with a mighty army of individuals, groups and organizations, desirable and undesirable, who, for many diverse reasons, creditable and discreditable, well-meaning but often ridiculous, find it expedient to enlist under the banner of public health.—Matthias Nicoll, Jr., J. A. M. A.

THYROGLOSSAL TRACT CYSTS

By JOHN HUNT SHEPHARD *

IT IS more appropriate to speak of thyroglossal tract cysts than thyroglossal duct cysts, as they are usually termed, for rarely is there a complete duct present.

When the human embryo is about 5 millimeters long an evagination appears on the ventral surface of the pharynx just posteriorly to the tuberculum impar. This point of evagination corresponds to the line of future fusion of the three portions of the tongue, and as they unite the orifice is prolonged upward forming the canal of His or thyroglossal duct. Usually by the fifth week of fetal life this canal begins to atrophy, and by the eighth week is completely obliterated. The foramen cecum on the posterior aspect of the tongue marks the site of this embryologic duct. From the ventral evagination above mentioned, the middle lobe of the thyroid develops. The two lateral lobes of the thyroid make their appearance a little later from the fourth inner visceral furrow. The three lobes unite about the seventh week of fetal life. As development progresses, the thyroid is drawn downward to its normal position below the level of the thyroid cartilage. If during this developmental period any of the epithelium of the canal of His fails of complete obliteration it may give rise to aberrant thyroid tissue or its secretion may give rise to a cyst, anywhere from the foramen cecum to the middle lobe of the thyroid gland.

The hyoid bone develops in three parts. The two lesser horns developing from the second visceral or anterior hyoid arch and the body develops as an unimpaired structure from a rod of cartilage developed in the third or posterior hyoid arch. This cartilaginous development does not occur until after the thyroid anlage has descended below its level, and the body of the hyoid bone develops in the plane of the thyroid descent. If there remains any unobliterated epithelium of the canal of His it may lie either anterior or posterior to or be surrounded by the body of the hyoid bone.

The diagnosis of cysts of the thyroglossal duct tract is readily made when they point on the surface of the neck, as they appear in the midline in close contact to the hyoid bone, and so far as I know no other cystic tumor has been described in this exact location. While they may make their appearance in infancy, they are usually first noticed when the child is 8 to 15 years old. They practically never become infected before they either rupture spontaneously or have been "lanced," and to the discredit of the profession they are usually lanced. When they develop in the upper half of the tongue they cause a swelling toward the foramen cecum and may cause considerable discomfort without any visible evidence. In such cases a careful palpation of the tongue will define the swelling as being intraglossal, and only at operation is it possible to differentiate such a cyst from a lingual thyroid.

The treatment of thyroglossal tract cysts is surgical, and only by a complete removal of all the epithelial tract will recurrence be avoided. Since only occasionally is the epithelium all below the hyoid bone, it is usually necessary to carry our dissection well above this point. Those of us who have tried to inject these tracts with various dyes in order to identify them during our dissection know how unsatisfactory this procedure is. The walls are thin and the tract is usually lost a short distance above the hyoid bone. When this occurs, healing is slow and recurrence certain. This is the history of these cases in the past, and consequently the profession has come to look upon them as very unsatisfactory, since recurrences far outnumbered the cures.

A review of our anatomy of this area shows us that the midline of the neck from the hyoid bone to the foramen cecum of the tongue consists only of fibrous and muscular tissues; that the submental triangle bounded laterally by the anterior bellies of the digastric muscles contains no important structures, and so long as we confine our dissection to this area we can do no harm. The hyoid bone is only an interposed fulcrum for muscular attachments and when sectioned gives free exposure to the undersurface of the tongue. In 1921 Sistrunk described a technique for operating these cases which, if followed, will, I believe, result in practically 100 per cent cures. A transverse incision about two inches long is made through the skin and plytasmus muscle just above the level of the hyoid bone. This places the scar where it is practically invisible. The cyst, if it has not previously been "lanced," or the tract is isolated from the surrounding tissue down to the hyoid bone. The muscles attached to the body of the hyoid are cut free and about one-eighth of the center of the body is removed by small bone forceps. This allows the two lateral parts of the hyoid to be retracted, giving ample working space. No attempt is made to identify the thyroglossal tract, but a core of muscle and fibrous tissue about three-eighths of an inch in diameter, running from the hyoid bone to the foramen cecum, is removed. If one is in doubt as to the exact line of dissection to follow, an assistant may hold his index finger on the foramen cecum and thus localize the point toward which one works. If one so chooses, the last part of the dissection may be done with the cautery. The hole at the base of the tongue is then closed and the muscles along the tract approximated. The cut ends of the hyoid bone are untied with chromic gut, a silkworm drain inserted, the plyrasmus sutured, and the skin approximated with a subcuticular stitch. Slight drainage may persist for ten to fourteen days. Following this operation the patient may have an apparent throat paralysis with fluids returning through the nose

* **John Hunt Shephard** (214 Twohy Building, San Jose, California). M. D. Rush Medical College, 1904; S. B. University of Chicago, 1902. Graduate study: Michael Reese Hospital, Chicago, 1904-06. Previous honors: Instructor in Surgery, P. and S., Chicago, 1905-06; member of staff, Mayo Clinic, 1916-20. Hospital connections: Attending Surgeon, San Jose Hospital; Attending Surgeon and President of Staff, O'Connor Sanitarium. Scientific organizations: Santa Clara County Medical Society, California Medical Association, American Medical Association. Practice limited to Diagnosis and Surgery. Publications: "Esophageal Diverticula," California and Western Medicine; "Factors Influencing Morbidity and Mortality in Exophthalmic Goiter," California and Western Medicine; "Adenomata of the Thyroid," California and Western Medicine; "Squamous Cell Epitheliomata of the Lip," Surg. Gynec. Obst.; "Reduction of Dorsal Dislocations of the Hip," Surg. Gynec. Obst.

when attempting to drink. This, however, disappears in three or four days.

In conclusion, thyroglossal tract cysts are due to an embryological defect.

Complete removal of the epithelial tract is easily accomplished by section of the hyoid bone and coring out of the muscles from the hyoid bone to the foramen cecum.

THE USE OF THEOBROMINE FOR PAIN OF ARTERIOSCLEROTIC ORIGIN

By WILLIAM DOCK*

DISCUSSION *by J. J. Sampson, San Francisco; Philip King Brown, San Francisco; Henry H. Lissner, Los Angeles; Harry Spiro, San Francisco.*

THE continued administration of theobromin to prevent the attacks in angina pectoris was introduced by Askanazy over thirty years ago, and two years ago he was able to point out that satisfactory results had been attained and reported by many physicians. This particular method of using theobromin has not until recently received more than incidental reference in papers on angina from American and English sources, nor is it generally used in our clinics because, like many remedies for heart disease, its action is inconstant.

Theobromin occurs naturally in cocoa; it differs from caffeine only in containing one less methyl group. Of the three closely related drugs, caffein, theophyllin, and theobromin, the latter is least irritant to the nervous system and stands second in activity as a vasodilator and diuretic. That the vasodilatant effects of these drugs are marked in the coronary circuit has been proved by Heathcote and confirmed by others. Recent work of Fred Smith has shown that the blood flow through the mammalian heart muscle may be increased 15 to 20 per cent by theobromin in dilutions as high as 1 to 50,000, the effect of theophyllin is twice as great, while a mixture of the latter with ethylenediamin is four times as powerful. Theophyllin is too irritant to the nervous system to be given over any period of days.

No universal explanation of angina pectoris has been accepted, but from the time of Heberden the frequency with which it is associated with severe coronary sclerosis has been noted. I have found a modification of Sir James Mackenzie's classification very useful. Primary angina pectoris is that due to hardening of the arteries and reduced blood supply of the heart; secondary angina is that due to aortic disease, hypertensive crises, tachycardia or cardiac neurosis. The nitrites produce striking relief during attacks of both types of angina; they not only dilate the coronaries, but lower general blood pressure, decrease venous return and thus take a great burden off the heart muscle and the aortic wall. It is in patients whose arterioles are capable of sufficient dilatation to compensate for the resistance offered by narrowing of the larger branches that we may expect, with a sound pharmacologic basis, to alleviate the condition with theobromin.

Experience has confirmed this reasoning, and it is important in prognosis to know that relief afforded by the drug is fairly definite evidence that disease in that patient is due to coronary sclerosis, but that it is not yet far advanced. It is precisely in such early cases of coronary disease that the differential diagnosis between primary and the more benign secondary type is most difficult.

It is obvious that attacks at intervals of a week or more rarely justify continuous medication of any kind, and that pain due to actual closure of the coronaries, or to paroxysmal tachycardia or some extracardiac factor is scarcely ever changed by theobromin. Aside from this the selection of cases is unimportant. If anginal pain occurs, theobromin should be given a trial, as it is inexpensive, causes no unpleasant effects and may be discontinued after four or five days if no relief is noted. The successful results are usually attained within two days.

My own experience with theobromin is about what could be predicted from the nature of the underlying pathologic changes. In most of the cases of angina no relief was given, but in an important minority relief was immediate and complete. The patients who improved were usually those with frequent, sometimes very severe, pain, moderate sclerosis of palpable vessels, and no other demonstrable circulatory disease. Two were men of about 50 with a history of years of immoderate smoking. In one patient attacks which had been occurring once or twice daily for months disappeared for almost a year, recurring whenever the drug was omitted. He then had a coronary occlusion, and died after eight months of heart failure without pain. A parietal aneurysm of the left ventricle was found at autopsy.

For years it has been known that nitroglycerin would relieve the intermittent limp or leg pain which so often occurs with arteriosclerosis of the tibial vessels. It is rarely used because the pain rapidly disappears on stopping, and occurs at intervals of a few hundred feet, which would make nitrite administration very frequent. After a rather dramatic experience with theobromin in such a case I was surprised to find no reference to the use of the drug in this type of arteriosclerotic pain either by writers on intermittent claudication or on theobromin. The patient was a tailor, 57 years old, whose disability had increased for six months in spite of having some infected teeth removed and being hospitalized, with bed rest and physiotherapy for six weeks. He had pain on walking two blocks, and had to stop after three or four. He was to have a periarterial sympathectomy, and was given theobromin to try for a few days. In three days he returned to say he had had no more pain and could walk any distance without having to stop. For the next two months he continued to take the drug, and whenever it was discontinued for a few days the pain recurred. He has been able to do without medication for the past four months, and the pain has not recurred. He had sclerosis of the arteries of the legs with calcification as shown in the x-ray; no pulsation was made out in the dorsalis pedis arteries or the left posterior tibial. There was no demon-

* William Dock (335 Calaveras Street, Altadena, California). M. D. Rush Medical College, 1922; B. S. Washington University, St. Louis, 1920. Present hospital connections: Lane and Stanford Hospital. Appointments: Assistant clinical professor of medicine, Stanford University. Practice limited to Internal Medicine.

strable heart disease. I have since observed that the number of patients with presumed intermittent limp who respond to theobromin is small, for it is often difficult to be sure of the diagnosis, and the condition is frequently complicated by the presence of edema and varicose veins. In the patient reported on I do not believe that theobromin caused the disease to disappear, but tided him over to a spontaneous remission.

Theobromin sodio-salicylate in 7 to 10 grain doses can be given conveniently three times daily, in solution or in capsules. The proprietary calcium compounds are more expensive but better borne by irritable stomachs. If decided benefit is not noted in three or four days, further administration is useless. When the attacks are inhibited by the drug it can be continued indefinitely, decreasing the dose and discontinuing from time to time to see whether pain recurs. It is unfortunate that the more powerful theophyllin is too excitant to the nervous system to be given continuously, although in patients with cardiac infarction it may be given with morphin with the object of opening up the widest possible collateral circulation.

No patient with angina pectoris or intermittent claudication should be considered intractible or subjected to operation until theobromin has been tried. We must not expect to meet with success in many patients, nor should we abandon a method which is inexpensive, harmless and requires but a few days trial. The satisfaction of an occasional brilliant success so quickly and easily attained, amply justifies this line of attack on one of the most painful of chronic diseases.

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DISCUSSION

J. J. Sampson, M. D. (291 Geary Street, San Francisco)—I feel that we are indebted to Doctor Dock for bringing to our attention the use of theobromin in organic angina. It has seemed unfortunate that we have been forced to rely on the nitrites whose action is relatively so transient in those forms of angina in which pain is persistent. Such patients have necessitated gradually increasing doses with greater frequency until the efficacy of the drug has been reduced to a negligible value.

Doctor Dock is somewhat pessimistic in his prediction that closure of the coronaries, or advanced coronary sclerosis, as diagnosed by any of the criteria which we have at hand, is not amenable to treatment by theobromin. Since having this drug called to my attention, I have used it very successfully on one striking instance. The woman presented constant precordial and left arm pain for a period of five days which, with other clinical findings, convinced me that she probably had a high degree of coronary occlusion. The relief obtained from theobromin therapy may possibly be accounted for by an element of spasm superimposed upon the organic partial occlusion.

I should like to ask Doctor Dock whether essential vascular hypertension was improved in any of his patients. He has discussed the dangers of central nervous system and gastrointestinal disturbances due to the drug but, as is known, in most patients with advanced arteriosclerosis pathological changes in the kidneys are present, and I should like to ask whether he has encountered evidence of further renal damage due to the theobromin when continued over a long period of time.

Philip King Brown, M. D. (Medical Building, San Francisco)—Doctor Dock's report throws light on the question raised twenty years ago by Forchheimer in the earliest edition of his work on therapeutics. A trial of diuretin was made by Forchheimer in all his cases of angina on the ground that diuretin dilated the coronary arteries and was therefore theoretically an ideal drug in angina. His conclusions were that it did not act as rapidly as the nitrites and it failed to act more frequently, and that further experience was required to show its precise indications. To these indications Dock has made a distinct contribution.

Another important part of Dock's paper is his classification of anginas in which he follows Mackenzie with certain modifications. Admitting that our knowledge of angina is wholly theoretical, that death in typical attacks has occurred where there was no pathological change in heart, aorta or coronaries, and that at autopsy even advanced disease of all three parts is repeatedly found without history of angina, we are left in the position rightly assumed by Dock of conducting a study of each case by consistent pharmacological method expecting that the careful records of patients relieved and those eventually studied at autopsy will throw light on the symptom complex and what induces it and controls it. With the same idea, W. B. Coffey and I have proceeded surgically controlling procedure by physiological interpretation and experiment as far as experiment is justified by safety. We have held that no patient should be dealt with surgically until all methods of relief medically had been tried without benefit. In this way we have collected much data about diuretin, and we agree that in low blood pressure patients with evident arteriosclerosis and myocardial change, diuretin does good. We have under care a patient nearly 70 who has had eight or ten major attacks in twenty years and innumerable almost daily minor attacks induced by smoking, indigestion or nervous disturbance and who has recently had one very grave attack of coronary thrombosis. Since this last condition diuretin is giving relative freedom from minor pains where it did not before. Another patient of thirty-seven years' standing, now 72 years of age, was unable to walk a half block without pain, and while nitroglycerin relieves him, he can do more without pain if he is on diuretin. The cardinal condition of his cardiovascular system is a dilated aorta, large heart and low pressure. A partial heart block made him seem to us a poor operative risk.

A word further about the classification of anginas. I believe that the division into types suggested by Mackenzie begs the question. Angina is a spasm relieved by therapy directed toward vasodilation. Herberden, who first described angina, recommended heat and mustard locally and alcohol internally. The remedies are still worth trial. When the spasm occurs in a cardiovascular system in which there is no pathological condition, death is less likely to occur. It is the arteriosclerosis in the aorta so often found at the orifice of the coronaries and the limited blood supply due to coronary sclerosis that makes the spasm the increasedly grave danger. In other words, all angina is serious and sooner or later will make itself felt as a grave matter. There is no rhyme or reason in the idea of Mackenzie that the frequency of attacks in women and certain types in men are not the same condition that holds in the grave attacks. The danger lies in the intensity of the spasm and the underlying disease of the cardiovascular system. If the patient lives long enough the minor attacks will be interspersed with major ones, as in the two cases I have cited.

Henry H. Lissner, M. D. (Insurance Exchange Building, Los Angeles)—Doctor Dock's report brings to our attention the question of the treatment of angina and arterial pain for review, not only of our past therapeutic experiences in the treatment of this alarming symptom, but also for a critical reconsideration of the theories of

angina in the light of our previous knowledge of the subject.

The various theories advanced by McKenzie, Osler, McCrae, Forsheimer, and others discuss the possibility of coronary spasm. There are many other aspects, however, which must be taken into consideration, and I am inclined to lean more toward the opinion of the French school and follow the opinion of Laubre that precordial pain is merely an expression of the lack of the reserve power of the heart muscle, and is not definitely due to coronary spasm and thrombosis. He reported cases of double coronary thrombosis with death, in which the patient never suffered from pain.

We have no evidence as to why vasodilators should relieve this particular type of pain. We have found from clinical experience that there are many patients who receive no benefit from nitroglycerin, theobromin or diuretin, and whose only expression of relief comes from the administration of morphin. We must also remember that angina pectoris and arterial pain show a pronounced tendency to remit. I have one such patient in mind who had four severe attacks of angina, the last one about nine years ago. This patient has an enlarged heart, dilated aorta, tortuous blood vessels, the axillary and brachial vessels on the right being greatly enlarged and sinuous; nitroglycerin or diuretin was used to control his attacks with occasional use of morphin. At present he is leading a useful life in the practice of law, but he has learned to know his physical limitations and to act accordingly.

I believe that the further clinical and experimental study of this most interesting condition will be necessary before we can definitely say what the actual pathological involvement is which causes pain and in this way look to a therapy which will be more directly indicated than our present knowledge of this condition suggests.

HARRY SPIRO, M. D. (Flood Building, San Francisco)—Doctor Dock should be thanked for his timely paper, timely because this appears to be the day of the surgeon. Medicinal methods for the alleviation of diseases are not as spectacular as surgical methods and so, frequently, surgical methods are recommended even though relief only is given.

Recently surgical intervention for the relief of attacks of angina pectoris has come to the fore. We thank the sponsors of this method for the attention they have drawn to an inadequately explored field. We thank them, for they have advanced medical knowledge.

I believe that the permanent blocking of the pathway of pain in cases of angina pectoris is of extreme importance, particularly so if one considers the theory which has been advanced, namely, that pain in itself may be of such intensity that it reacts on the vagus nerve supply to the heart, the vagus becomes overstimulated and this stops the heart action. This in itself would not be serious if the heart muscle is predominantly healthy, but if there are sufficient pathological changes present the heart may fail to recuperate and the patient die. This partially justifies surgical intervention, but you cannot cure angina pectoris by surgery. We are too apt to lose sight of the beneficial effects of medicinal treatment, and Dock's paper will undoubtedly reawaken interests in methods other than surgical for the relief of angina pectoris.

I do not believe in the theory that spasmodic contraction of the aorta is the cause of angina pectoris. The aorta is not built to contract. There is practically no muscular tissue in the aorta, it can stretch and can resume its former shape again, depending upon the amount of healthy elastic tissue present. If the aorta had the power to contract spasmodically, as some physicians believe, death would be far more frequent than it is.

I have watched patients during attacks of angina pectoris. I have had them before the fluoroscope during an attack, and it has appeared to me that the aorta has dilated instead of contracted. It may have been the sudden stretching of the diseased aorta which caused the pain. How then do the vasodilators give relief, because at times they do relieve pain? The answer must be in the peripheral blood vessels, because they contract and relax actively, not passively. They are under the control of the central nervous system, and entire systems of arteries can be made to contract or relax by medical means. As Dock has pointed out, preparations of theobromin are vasodilators. They are moderately slow in their action and long in duration of action. If the peripheral vessels are relaxed the strain on the aorta is relieved. The most commonly used of these vasodilators is diuretin. This, as you have been told, is a preparation containing theobromin and salycilate. It is comparatively expensive to use and frequently causes gastric distress. As Dock has stated, some manufacturers have combined diuretin and calcium, and claim beneficial results. I believe the addition of calcium to diuretin does add to the effect of diuretin, but most often it has no additional beneficial effects. I have been experimenting for months with diuretin and theobromin preparations, in an endeavor to get a preparation which will not cause gastric distress. I am pleased to offer to you this fairly successful combination. It has been thoroughly tried and is not based upon imaginary results. It is a combination of diuretin and quinin sulphate, or theobromin and quinin sulphate I do not know why the quinin acts so as to alleviate the irritating effect of the theobromin, but such is the fact. I have tried giving patients diuretin alone and have had them complain bitterly of gastric distress; then on the following day I have given a combination of diuretin and quinin and they have stated that they have had no distress, and on the following day diuretin alone has made them complain that the stomach was out of order. I ask you to try it.

I believe the medicinal treatment of angina pectoris to be better practice than the surgical treatment because if you can get results medicinally you frequently can get what can be considered a cure. Yes, even if the coronary arteries are plugged, a relative cure has at times been attained. Of course, the patient's tolerance to strain or exercise depends upon the elasticity of his coronary arteries, but even so, if that patient is given time, nature can partially compensate for almost completely plugged coronaries. Time, then, is what we wish, time for nature to come to our assistance. Theobromin is one preparation which will assist nature in coming to the rescue of our patients.

DOCTOR DOCK (closing)—In closing I wish to stress once more that the use of theobromin in warding off attacks of angina is an old practice, but has been confused with its other uses in heart disease, and attempts, such as Forsheimer's, which Doctor Brown has cited, to use theobromin instead of the nitrites during the attack. Severe coronary disease is less likely to respond than milder cases, but in any type trial of the drug is worth while. I have no data on the general effects of theobromin on the blood pressure, urine output, or urinary sediment of these cases, but none of them had serious renal damage before or after treatment. Tube casts and a trace of albumen in the urine are common, and at autopsy renal arteriosclerosis and even infarction not infrequent in this type of patient. Perhaps the strongest evidence that angina and intermittent limp are due to muscle pain, either from ischemia or overstrain, and not to spasm of vessels of any size, is the fact that infarcts of the heart or extremities can cause pain exactly similar to the periodic pain of angina pectoris and cruris, while infarction of the brain, kidneys, and vascular disease of these organs is quite painless. The effect of theobromin can be explained on the assumption that the work of the heart is diminished by its systemic action, and the coronary flow improved by dilating normal arterioles, whether narrowing of larger vessels occurs or not. Surgical intervention is of utmost value in patients whose attacks cannot be prevented. However, the operation which destroys the pain fibers is less satisfactory than that introduced by Doctors Brown and Coffey in which, as Langley pointed out, only efferent pathways are cut.

The vast majority of so-called "nervous breakdowns" are mental disorders. It is difficult for the laity to believe that those who suffer mental disorder are not usually insane. Insanity, conventionally, is a matter of conduct. One may be as full of insane ideas as a bank is of money, and still be sane in the light of the law and in the eye of his neighbor, if his conduct does not express these insane ideas.—Joseph Collins, Dearborn Independent.

"Snoring is due largely to laziness, lack of exercise and overeating, according to a prominent physician."

And they call us industrious!

CLINICAL NOTES, CASE REPORTS AND NEW INSTRUMENTS

ACUTE INTESTINAL OBSTRUCTION

ITS ETIOLOGY UNDER DISCUSSION

By SAMUEL FLOERSHEIM *

A female patient about 40 years of age in a tuberculosis sanatorium. Patient not doing well. Complained of stomach and intestinal symptoms. Bowels fairly regular. No nausea or vomiting, but indefinite pains and discomfort about the midabdomen. The only thing that could be found was a small mass above and to the left of umbilicus. About three or four weeks later the patient was attacked with a sudden severe onset of agonizing abdominal pain, acute intestinal obstruction with temperature up to 103 and pulse to 115, leucocytes 13,000. Nauseated and vomited. The medical superintendent treated the patient expectantly for twenty-four hours and then asked me to see her. The abdomen was thin, boardlike, the facies were quite pinched. Strikingly prominent was the dermal and subdermal infiltration extending from the umbilicus up to the edge of the ribs and into the ensiform space on the left side. This area was quite tender even to light touch. This latter may have been caused by the application of an ice bag, as it was unnoticed previously.

A diagnosis of acute intestinal obstruction was made; its cause not clear. Absolute rest, slow and graduated pressure enemas of borax and hot water was advised to see if gas could be made to pass. This to be done most carefully so as not to increase the existing pain. Externally, cold (ice in bag covered with thick cloth). Small amounts of fluids by mouth. Should symptoms not mitigate in twenty-four hours it was then advised to remove patient to a hospital for operation. Six or eight hours after giving a few enemas, gas did pass and the patient became a little easier. A phone message next day was to the effect that the patient was somewhat easier and gas was going through. Three days following I saw her again and she seemed to me to be much improved. Four days later with the improvement continuing, a surgical consultant passing through the institution saw the patient and believed it to be a simple case of acute constipation. The patient improved steadily though slowly, and in three weeks became quite bright again though still abed and on back, the skin infiltration still persisting quite extensively and quite tender. Bowel movements occurring quite regularly. Four and a half months after the attack the skin infiltration still persisting about the midportion of the upper left hypochondriac area and slightly tender.

The medical superintendent offered a probable diagnosis of acute local peritonitis in which I concurred; the assistant, one of acute hemorrhagic pancreatitis to which the medical superintendent and I did not agree.

The probable cause of the peritonitis was in discussion. In view of the small mass to the left of the umbilicus and somewhat above which was somewhat painful and under examination was fairly tender a few weeks previously, I tendered as a possible cause a ruptured tubercular mesenteric gland—possibly adherent to the parietal (abdominal wall) peritoneum, probably rupturing into the intestine. After nearly six months the skin induration is practically gone and the patient feels quite well as regards her gastrointestinal symptoms, though still under treatment for her pulmonary tuberculosis.

* **Samuel Floersheim** (1015 Story Building, Los Angeles). M. D. Bellvue Hospital Medical College, 1898. Previous honors: Formerly chief of clinic, Gastrointestinal Department, St. Mark's Dispensary and Hospital, and Stuyvesant Clinic, New York. Hospital connections: Consulting gastroenterologist, Jewish Consumptive Relief Association Sanatorium, Duarte, California; consultant gastroenterologist, Los Angeles Jewis Ex-patient Home Society. Scientific organizations: Los Angeles County Medical Society, C. M. A., A. M. A., vice-president medical staff Jewish Consumptive Relief Association Sanatorium. Practice limited to Gastroenterology since 1911. Publications: "Appendectomy in the Young for Prevention of Morbidity in Adult Life," "Chronic Appendicitis," "The Acute Abdomen: Pain in the Upper Right Quadrant; Pain in the Lower Right Quadrant," "Teeth in Relation to the Gastrointestinal Tract," "Diet in the Tubercular." Many publications the past years on gastrointestinal subjects.

Dr. Langley Porter, writing from London, tells us of some interesting investigations carried out during the last four years by Dr. H. D. Corry Mann, on behalf of the British Medical Research Council, with regard to diets for boys during school age, and the results which have now been published.

"It is startling to learn," states the author, "as we now do, for instance, that the addition of one pint of milk a day to a diet, which by itself satisfied the appetite of growing boys fed upon it, could convert an average annual gain of weight of 3.85 pounds per boy into one of 6.98 pounds, and an annual average increase of height from 1.84 inches to 2.63 inches. This unmistakable betterment in nutrition was proved by trial to be due, not to the relatively small increase in the fuel value of the dietary, nor to the extra protein supplied in the milk, but rather to more specific qualities of milk as a food.

"It is of the first importance," the preface continues, "to notice that the improved gains in weight and height, taken as the measurable characters in this inquiry, were found to be accompanied regularly by improved general health and by improvement in what may perhaps be called 'spirit.' . . . The improved 'spirit' of these boys led to their being more often in trouble for minor offenses against order. No measurable indications were found of their having greater proficiency at school work, but this, in the absence of any modification of disciplinary or teaching methods, is not to be weighed against the general evidence for greater mental vigor."

The investigations were carried out in a colony for boys which is situated eleven miles from London, the boys being housed in a model village of nineteen cottages, eight of which were chosen for the experiments.

The basic diet was given to all the boys, but there was an addition to that diet in seven of the eight cottages. In one case it was a pint of fresh milk daily per boy, value 388 calories; in another 3 ounces of castor sugar daily per boy, value 350 calories; in a third case the ration was 1¾ ounces (387 calories) daily per boy of the best New Zealand grass-fed butter; in two of the cottages watercress was used, the ration being ½ ounce to ¾ ounce daily per boy; casein to the extent of ¾ ounce per day per boy was served in another; while the seventh variation was vegetable margarine consisting of coconut oil and groundnut oil, the daily ration per boy being 1¾ ounce, value 379 calories.

Observation was kept as regards summer and winter growth, and it was found that there was almost invariably more growth during the summer period than the winter period.

Sixty-one boys, who received only the basic diet of the village, gained an average 3.85 pounds per boy and grew an average 1.84 inches per boy during twelve months. Forty-one boys who received, in addition to the basic diet, the fresh cow's milk, pasteurized and homogenized, gained an average of 6.98 pounds per boy and grew an average 2.63 inches per boy during twelve months.

Twenty boys received the castor sugar ration, gained an average of 4.93 pounds per boy, and grew an average 1.94 inches per boy; twenty-six boys received the butter ration, gained an average of 6.30 pounds per boy, and grew an average 2.22 inches per boy; sixteen boys received the vegetable margarine, gained an average of 5.21 pounds per boy, and grew an average 1.84 inches per boy; thirty boys received ¾ ounces of edible casein, gained an average of 4.01 pounds per boy, and grew an average 1.76 inches per boy; twenty-six boys received ¾ ounces of fresh watercress, gained an average of 5.42 pounds per boy and grew an average 1.70 inches per boy. In each case the results were for twelve months.

The Roman citizens bartered their ancient liberties for bread and circuses. The American citizen today freely barters his individual liberties and rights for government bounties and bonuses. He demands government interference in everything and surrenders freedom and his individuality for it—F. F. Dumont Smith, Chairman Committee on American Citizenship.

- BEDSIDE MEDICINE FOR BEDSIDE DOCTORS -

An open forum for brief discussions of the workaday problems of the bedside doctor. Suggestions for subjects and discussants invited. Useful extracts from letters will be published.

A BRIEF OF THE EVIDENCE WHICH JUSTIFIES A DIAGNOSIS OF INFANTILE PARALYSIS

The Editor—There is a message—a useful message—in this discussion for every doctor whose practice includes the care of children.

"Polio" is a curious disease, protean in its manifestations, and often hides its identity from the unwary physician by simulating other less serious afflictions, at least during the period when much not later possible might be done for the patient as well as for the safety of other children.

Isn't "the answer" careful study and repeated examinations of our patients?

Interest in *Bedside Medicine for Bedside Doctors* continues to be encouraging. Many physicians are tasting their "first blood" as authors in these discussions. This is well, for no one who carefully writes out his discussion on one of these subjects will ever overlook a similar problem in his practice. Suggestions for subjects—sharply limited subjects—are invited.

C. F. Gelston *—Interest and importance are focused directly on the preparalytic stage of this disease. There are several types of onset to be watched for and recognized, since the results obtained by the early use of convalescent serum have recently been so eminently successful.

In the first type there is the history of a sudden acute illness with high temperature from 103 or 104 quickly followed by vomiting, slight diarrhea, and convulsions. This is seen particularly in young infants, and proceeds to almost constant convulsion, stupor, and death.

The second type is ushered in by sudden acute illness with temperature to 103-105, headache, congested throat, slightly stiff neck, exaggerated reflexes a positive Kernig, and pain in a group of muscles, for instance, the leg. This form leads rapidly to weakness in the group of muscles, loss of reflexes, and development of paresis or paralysis.

The third type has a sudden acute onset as above, but with more rapid advance and more intense symptoms and signs. Diarrhea is marked, accompanied by vomiting and a quickly ensuing delirium, strabismus, and difficulty in swallowing. This fulminating type, so-called bulbar, formerly has been constantly fatal.

The fourth type has a slower onset, over twenty-four to forty-eight hours or longer, characterized by malaise, headache, slight fever or none, diarrhea, frequently nausea, then proceeding to severe headache, neck rigidity, heightened reflex response, positive Kernig, and considerable toxemia.

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Patients of the above classes are frequently overlooked during an epidemic and may be wrongly diagnosed unless definite paralysis occurs. These are types actually seen, and are of the mild or abortive type.

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Vomiting is a very frequent early symptom often accompanied by diarrhea or, in some instances, constipation.

The history of an early mild respiratory infection often may be elicited. Drowsiness or irritability are important facts which may be brought out about the onset, and it is well to be on the lookout for a marked general hyperesthesia manifested as sensitiveness of the child to touch. Pain on motion and tenderness along the spine when accompanied by an unclouded mind are very suggestive signs. Slight Kernig or Babinski signs are often present early and the knee jerk may be diminished or when the upper extremities are involved the knee jerk may be exaggerated.

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With any combination of these symptoms we still have no clear picture of poliomyelitis. If in addition to them we have a child heretofore friendly to the family physician during previous illnesses, suddenly antagonistic, the fact merits careful examination. He resents examination and prefers to lie with pillow shoved aside and his head burrowed into the mattress. His mother may help the diagnosis by, "He is so cross, I can't please him. He won't let me change his clothes, and he won't even let me hold his head up to feed him," or "He doesn't want me to touch him." She may or may not report that he refused all her offers of comfort because, "my head hurts."

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- BEDSIDE MEDICINE FOR BEDSIDE DOCTORS -

An open forum for brief discussions of the workaday problems of the bedside doctor. Suggestions for subjects and discussants invited. Useful extracts from letters will be published.

A BRIEF OF THE EVIDENCE WHICH JUSTIFIES A DIAGNOSIS OF INFANTILE PARALYSIS

The Editor—There is a message—a useful message—in this discussion for every doctor whose practice includes the care of children.

"Polio" is a curious disease, protean in its manifestations, and often hides its identity from the unwary physician by simulating other less serious afflictions, at least during the period when much not later possible might be done for the patient as well as for the safety of other children.

Isn't "the answer" careful study and repeated examinations of our patients?

Interest in *Bedside Medicine for Bedside Doctors* continues to be encouraging. Many physicians are tasting their "first blood" as authors in these discussions. This is well, for no one who carefully writes out his discussion on one of these subjects will ever overlook a similar problem in his practice. Suggestions for subjects—sharply limited subjects—are invited.

C. F. Gelston *—Interest and importance are focused directly on the preparalytic stage of this disease. There are several types of onset to be watched for and recognized, since the results obtained by the early use of convalescent serum have recently been so eminently successful.

In the first type there is the history of a sudden acute illness with high temperature from 103 or 104 quickly followed by vomiting, slight diarrhea, and convulsions. This is seen particularly in young infants, and proceeds to almost constant convulsion, stupor, and death.

The second type is ushered in by sudden acute illness with temperature to 103-105, headache, congested throat, slightly stiff neck, exaggerated reflexes a positive Kernig, and pain in a group of muscles, for instance, the leg. This form leads rapidly to weakness in the group of muscles, loss of reflexes, and development of paresis or paralysis.

The third type has a sudden acute onset as above, but with more rapid advance and more intense symptoms and signs. Diarrhea is marked, accompanied by vomiting and a quickly ensuing delirium, strabismus, and difficulty in swallowing. This fulminating type, so-called bulbar, formerly has been constantly fatal.

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particularly when poliomyelitis is prevalent in a community. But I believe we have yet to find a definite diagnostic symptom of the early onset of the disease. The fever, vomiting, diarrhea, constipation, irritability, etc., being as common to all children's diseases, they are not diagnostic except during epidemics when any ill health makes us suspicious.

I should like to emphasize one of the symptoms suggested by Doctor Scott: that of generalized muscular tenderness, weakness, and pain. In a rather limited number of patients I have found this condition to exist in all. Several never complained of it until questioned closely and, of course, in a very young child it can be of small value, but if closely checked up I believe will be found present in a large percentage of polio patients and not found in many other children's diseases.

As a case in point: In 1921, when there was little poliomyelitis in California, I saw a boy 14 years of age complaining only of dizziness, rather severe headaches, and indefinite pain in arms, legs, and back. There was slight rigidity of the neck. Having just had a tubercular meningitis patient, a lumbar puncture was done on this boy revealing a markedly increased cell count and globulin. Slight paralysis of one-half tibialis anticus developed.

Again, in 1925 a boy of 9 years with temperature 99½, slight headache and general malais, indefinite pain in the back, legs, and arms, was brought to my office chiefly because of the presence of poliomyelitis in Los Angeles at that time. The following day he was quite apparently improved, but was kept under close observation and five days later developed a definite paralysis of the gluteus.

One rather hesitates to do a lumbar puncture on all slightly ill patients on suspicion, but I believe it justified in all children with even slight fever and generalized indefinite pain and soreness of the muscles not otherwise satisfactorily accounted for.

L. K. Van Allen — Never having had patients with infantile paralysis, I may only discuss the symptoms that would make me suspicious and cause me to make a spinal puncture. I realize that an early diagnosis is all important if anything is to be done for the patient. I think now that if a child patient were to appear as suffering from headache combined with the usual prodromal symptoms of infections and then were to appear unusually sensitive to touch and showed even a mild rigidity of the neck muscles and spine, this would cause me to think of infantile paralysis and to so inform the parents and advise a spinal puncture at once. As I understand the matter, there is no symptom or group of symptoms that can be said to be diagnostic of this disease. But if in addition to the above-mentioned symptoms the child showed a gastrointestinal upset I would feel even more the necessity of spinal puncture. This all, of course, refers to the mild case where no epidemic exists. If in addition to these symptoms one had extreme temperature and toxemia the case would be clearer.

I mention these things because the physician in general practice must have something definite on which to base a diagnosis of such a severe condition when the diagnosis is so difficult to make. And I believe that while the majority of physicians of this state have not seen a case of infantile paralysis, yet any one of us may be called upon tomorrow to save or lose a life, or prevent a paralysis by being able to diagnose the mild case that appears when there is no epidemic. So that while I am unable to discuss this subject from the standpoint of one who has treated these patients. I thought you might be interested in knowing what a physician who had not as yet treated such patients understood what was necessary to make a diagnosis.

I am delighted to know that you are conducting such a discussion, as I feel it is of vital importance and the papers are very helpful to me and I feel will be to all the readers of your excellent magazine.

Barnet E. Bonar * (718 Boston Building, Salt Lake City, Utah)—Diagnosis during the preparalytic stage, although oftentimes difficult, is essential if the child is to be given the benefit of serotherapy. To effect a diagnosis one must be alert to note certain symptoms, regardless of the insidiousness of the onset or the variability in temperature. The history usually of an upper respiratory tract infection followed by drowsiness, which is interrupted frequently by complaints of headache and pain in the muscles of the neck, back or legs, together with evidence of sensitiveness of the skin to touch, pain on passive motion, excessive perspiration and marked irritability when disturbed, are sufficiently suggestive of acute anterior poliomyelitis to warrant a diagnostic lumbar puncture. If exaggerated reflexes are present it is imperative that a lumbar puncture be performed. While the onset is often sudden with high fever, headache, vomiting and diarrhea, it is not uncommon to find the disease ushered in gradually with a relatively low fever and relatively few acute symptoms.

The pain and tenderness in the muscles of the back and legs are often suggestive of muscular or articular rheumatism, but one should not be too eager to consider it as such, particularly when localization about the joints cannot be made out. It is interesting to note how often rheumatism must be thought of early in the course of the disease. Frequently the leukocyte count will be helpful, for in infantile paralysis a low count or leukopenia is common.

The symptoms and physical findings enumerated in the first paragraph cannot be considered pathognomonic of infantile paralysis, for early there is no one group of findings that may be considered as such. However, when these findings are present, examination of the cerebrospinal fluid will be of great value in ruling out most of the considerations, save tubercular meningitis. The history of exposure to tuberculosis, of failing health together with severe headache, great prostration and coma, or at least extreme somnolence, are found in tubercular menin-

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gitis, whereas, in infantile paralysis there usually is a history of good health prior to the onset of the disease, the headache is not acute, and while mild somnolence is the rule, the child's sensorium remains unclouded.

The abortive cases and the mild ones are extremely difficult to differentiate, but early recognition or at least early isolation of them would undoubtedly reduce the frequency of the disease. It seems only logical to suggest that when there is any doubt the patient should be considered poliomyelitis until proved otherwise, in order to insure safety for the other children in the community. The mild sporadic cases are the ones that breed epidemics and of necessity require an early diagnosis if epidemics are to be stamped out.

In spite of all this discussion each and every one of us will continue to make our mistakes in diagnosing acute anterior poliomyelitis, for it is without doubt a most difficult disease to recognize early; but if we are able to lessen the number of our errors through this discussion we may feel that it has well served its purpose.

Teaching of Tropical Medicine—The objects of a medical school, says Alfred C. Reed, San Francisco (Journal A. M. A.), are twofold. The first object is to train sound general practitioners in the art and science of medicine. The second is to select students not of higher, but of special, aptitude for careers in pure science, in research and in teaching. For the practice of medicine in most parts of the United States in the coming decades, a fair knowledge of tropical medicine is a necessity. For the research student and teacher it is even more a necessity because of the great problems of prevention and control that await solution today here in our own country. Only a fair beginning has been made. Another angle of the same matter is that without a systematic acquaintance with tropical medicine, the student planning a research career is handicapped by his lack of full survey of the field of prevention and control of disease, and therefore cannot make the best selection of the direction in which he will apply himself. The plentitude of opportunity in research in tropical medicine is receiving more and more appreciation in this country, and it is only fair that medical students should know the opportunity and that scientific research should receive the advantage of recruiting new workers in this field. The contents of a course in tropical medicine in an American medical school will naturally depend on the general educational objects of the school. It may vary from a full department with a full-time professor at its head to a series of occasional lectures, optional or cultural in their purpose. The type of physician the school aims to produce and the medical needs it aims to fulfil for its students are the deciding factors in the allocation of time and the selection of subject-matter. Most of the southern schools devote definite attention to tropical medicine. Several of the older, larger, better-known schools have developed full departments as at Tulane, or separate schools of tropical medicine and public health as at Harvard and Johns Hopkins. Most are represented by single courses in tropical diseases, and these are given when clinical material is available. The trend toward increasing the time allotted and toward recognition of the subject as such is definite. In several schools graduate courses are offered or a short, intensive, full-time course. Tropical medicine is being found an important element in the training of medical students in the United States, and many physicians are realizing a need for postgraduate instruction in it. Undergraduate instruction can be fitted into the present curriculum by a different emphasis and classification at small additional expense of hours. The general practitioner in most parts of this country needs such instruction. The development of commerce and travel is opening lines of medical work where such instruction is a necessity.

We think in generalities, but we live in detail.—Alfred North Whitehead, Atlantic Monthly.

Sanitary Officer and County Health Work—E. L. Bishop, Nashville, Tenn. (Journal A. M. A.), points out that rural health work has two basic differences from urban health work. Personal relationships in rural health work are more intimate, the health worker being subjected to much closer scrutiny than is the case with urban workers. The second difference is concerned with finance. In the first place the assessed valuation of rural areas is lower than is the case with cities, and, in addition, appropriating bodies of rural governments have not yet begun the appropriation of very large sums per capita for the protection and promotion of the public health. In a study of eighty-eight full-time county health organizations in operation throughout 1925, and serving nearly 4,000,000 people, it has been shown that the total budgets represented a per capita tax of 32.4 cents. It is fair to assume that expenditures from county funds do not exceed three-fourths of the total budgets. In the selection of counties for full-time county health departments, we have usually thought of 50 cents per capita as being a suitable expenditure; a budget of $10,000 per annum as the desirable budget for a unit of four persons, and a county of approximately 20,000 persons as a suitable unit for operations. If adequate protection of the public health is essentially concerned with personal relationships, obviously some form of full-time health service must be provided for each political unit of government, as the unit of health organization, though this need not mean that all the personnel of a unit of health organization must confine its activity to an individual political unit of government. Faced with the necessity for providing this service, and at the same time confronted with the difficulties of financing rural health work, what, then, is the solution for the rural southern county of less than 20,000? In some areas, considerable advance has been made by use of the public health nurse in the development of a local program, the principal parts of which are concerned with that phase of preventive medicine commonly termed personal hygiene. In some other areas it has seemed proper to begin with the environmental sanitation phase of the local health program, with the sanitary officer considered as the logical agent. The latter plan has several advantages, adapting it for use in many southern counties. In the first place, it deals with some of the fundamentals of rural health work, since the sanitary officer may devote most of his activity to the prevention of soil pollution, protection of water supplies, and certain parts of a malaria control program. Adequate supervision, under a well-trained personnel, is a prime essential to success, for without such supervision there will be a surer tendency to degeneration of the program into inefficient activity than will be a surer tendency to degeneration of the program into inefficient activity, than will be the case with county health departments. In addition, financial co-operation by the state is necessary, not only as a stimulant to increased local organization, but also as a stabilizing factor and a measure lessening the danger of unwarranted interference by local political considerations.

Collateral Circulation in Thromboangitis Oblittrans—Roentgenograms of vessels in thromboangitis obliterans injected with bismuth oxychloride reveal an extensive collateral circulation, and indicate that gangrene in these cases is due to the inability of the collateral circulation to keep ahead of the advancing thrombus. Dean Lewis and F. L. Reichert, Baltimore (Journal A. M. A.), assert that an attempt may be made to hasten the development of a collateral circulation by division of the femoral artery just distal to the origin of the profunda femoris. Division of this artery throws out of function the principal arteries involved in the chronic inflammatory process. That thromboangitis obliterans does not interfere with the development of a collateral circulation is indicated by visualization of vessels in these cases. The early and practically complete relief from pain following division of the femoral artery, as in one case cited, suggests that spasm of the artery may be an important factor in causing pain, and that throwing out of function of the arteries principally involved in this process may be an important factor in relief of pain.

We need less coddling of prisoners, more sympathy for victims and less for the criminals, less talk about the irresponsibility of confirmed criminals, more even-handed justice and less mawkish sentimentality.—Nebraska M. J.

EDITORIALS

HEALTH DOLES

The illuminating and undisputed fact that Britain's unemployment dole is producing increasing numbers of persons who prefer the dole without work to work without the dole has spread to beneficiaries under the health insurance law where the increase of malingering has alarmed Mr. Neville Chamberlain, Minister of Health, who announces that the drain on the insurance funds has increased a million pounds during the last three months. He warns that the danger from malingerers "who by constant visits and complaints, urge reluctant doctors to give them certificates of incapability to work," and the tendency of others "to magnify minor ailments and claim sickness benefits" may have to be met by tightening up of administration regulations.

Evidence, none the less significant, with its roots in the same social quagmire, is supplied in the United States by the increasing number of people who complacently accept "free" government help as a satisfactory substitute for thrift, self-reliance, and personal independence, once considered a fundamental element of self-respect and a requisite of good citizenship.

This is not, as so often stated, so much a physician's problem as it is a community, state, national and world problem. The maximum swing of the pendulum is individual responsibility, thrift, and self-reliance at one end and communistic overlordship with submergence of the individual at the other end.

True, doctors are intensely interested somewhat in a personal way, but particularly from the point of view of public welfare. As individuals they are perhaps more interested than members of other callings in the same boat because health is and always has been the great experimental field of socialistic movements. Equally interesting is the fact that when socialism or communism breaks, as it always does when it reaches certain stages, the health field is one of the first to be restored to a semblance of sanity and order. Witness communistic Russia, where having drunk the bitter dregs of communistic overlordship to an extent never before recorded, we see signs of returning sanity, one of the first and most hopeful of which is what appears to be an intelligent effort to restore medical and health agencies and services on an intelligent foundation.

They haven't traveled far on the return road, but they are headed again toward safety, while some other countries continue on the out trail.

Sugar-coated health doles of many shapes, varieties, and sizes are the energizing traffic power on the out trail. The sugar coating is thick and sweet to the novice, and a paternalistic government who supplies them will continue popular until the bitterness which is the substance of the thing begins to filter through, as it is now among people just ahead of us on the road we are traveling.

THE DOCTOR'S LIBRARY

In no other way is the broadening of medical knowledge and service being more clearly demonstrated than in the widening scope of medical literature.

The conventional walls around doctors' libraries are being broken down; those who formerly were almost exclusively medical publishers are printing and promoting books dealing with every phase of life, and outside publishers are invading the field of scientific medicine. This is encouraging, even though it is making progress by returning to conditions of other days.

Many books most useful to the physician of today are not published by what are known as medical publishing houses, and many of the books most serviceable to physicians published by these houses are not what a few years ago would have been classed as medical books. A similar broadening is noticed in both scientific and popular periodical literature. Much current information of value to physicians is appearing in increasing quantity and variety in the better class non-medical magazines, and the most useful medical periodicals accept material that only a few years ago they would have scorned to publish.

The crumbling of these walls, the breaking down of hypothetical distinctions between doctors, patients and other average citizens is wholesome and promises to advance the cause of personal and public health and to add new values and responsibilities to the service man of health.

It's the person who needs the doctor's attention and not the disease or the "case." That more and more doctors are treating diseases and complaints less as abstract troubles and paying increasing attention to the needs of the individual—the personality—as a whole and applying remedies and advice based upon broader understanding of life and its normal and malfunctions as they bear upon the individual as a whole is a fact destined to add a new chapter to medical progress.

Rapidly accumulating, widely published results of carefully made examinations are showing that there are few, if indeed there are any, individuals entirely free from defects and infirmities that cry loudly for relief. The doctor who devotes his whole energies to discovering and ameliorating these defects in their early and correctable stages has an exceedingly promising future.

WHO PAYS THIS DEFICIT?

It is quite generally known to hospital executives that the rates paid by state and private insurance companies for service to their policyholders is less than the cost of the service to the hospitals.

In California the charity thus given to both state and private industrial insurance companies absorbs a considerable proportion of the funds donated by the public under the impression that they are assisting in a worthy service to the poor.

California and Western Medicine has invited attention to this wrong a number of times without producing any apparent result locally. Now others are taking up the subject, and it is only a question of time until insurance companies will be required to pay legitimate hospital costs, and funds

given by individuals and organizations to benefit the deserving poor may all be devoted to their legitimate purpose.

An illuminating editorial (Modern Hospital, May ,1926), concludes a discussion of this subject by saying:

"From these reports it may be seen that most hospitals are not receiving full amounts from industries or insurance companies for hospitalized cases. Whether industry, the state compensation fund, or the hospitals themselves are at fault, is difficult to determine. From the wide range of charges it seems that the first step would be to obtain some logical basis of charge upon which payment can be computed, and then to take concerted action as advised in one letter. Local conditions and personal elements enter into many of the cases, and superintendents are often powerless to make changes. But where a superintendent is accepting payment far below cost, knows that the payment is far below cost and that it is obtained from corporations well able to pay at least cost, and where there are no local conditions to render this payment just, he is keeping from the poor of his community proper treatment and is obtaining money from his contributors under false pretenses. People like to contribute to alleviate the sufferings of the poor, but there is yet to be discovered the man who will go down into his pocket to contribute $10 to help the corporations to get cheap hospitalization for employees who need this care."

HEART DISEASE

That there are fashions in the naming of diseases as in dress and other group customs, is easily established by anyone who cares to examine morbidity and mortality statistics.

Within certain limits and for certain classes of infirmities, little harm may be done by following fashions in diagnosis, but when the diagnosis of the moment is given because it may satisfy patients and their friends and in lieu of careful study by the physician, great harm may ensue.

"Heart disease" is for the moment a most popular diagnosis. "So satisfying to know the truth, and so honest of the doctor who is not afraid to tell it," say those persons who like to discuss their troubles and who when previously heard from were fashionable with some other equally indefinite labeling of their affliction.

Physicians, above all others, should avoid becoming confused by the numerous moving spotlights of health education flashed here and there by numerous groups and which confuse rather than illuminate the vast areas of darkness which surround the causes and consequences of disease.

Cardio-vascular diseases, including heart diseases, are and always have been extremely prevalent, serious and important, and intelligent well-directed health and medical education is also extremely important.

But that we are making progress by substituting diagnosis of heart disease for senility, old age, the cirrhoses, degenerations and many other formerly acceptable diagnoses, so obvious in changing mortality statistics, or that the heralding of these new statistics as progress in health education instead of just motion, as they are in part, is open to question.

Cardio-vascular diseases probably are increasing, at least in proportion to the increasing strain and stress of living characteristic of our times, and which is fast enough to be disturbing. Naturally also with the increasing intelligence of physicians, a higher percentage than formerly of these and all other diseases are being recognized for what they are. But isn't there a danger that the focusing on the heart of too much light through highly amplifying lenses may increase the density of the shadows beyond the limited field? Superstition and fear complexes are at their best in the shadows of ignorance. Malfunctioning of the heart is an extremely prevalent manifestation of a large variety of diseases and its actual disease a frequent consequence of many diseases, but primary disease of this vital organ as careful students are pointing out is nothing like as frequent as we are being invited to believe.

A prominent physician who devotes much of his time to a study of cardio-vascular diseases considers that his most difficult problem is to make growing numbers of patients realize and appreciate that there is nothing seriously the matter with their hearts.

Perhaps we do not always realize what a profound impression a diagnosis of heart disease makes on the patient—so profound that it is often difficult to convince them that there are forms of heart disease which are compatible with long and active life. Should we not therefore be cautious in hanging over our patient a dark shadow that it is much easier to invoke than to dispel? Would we not serve patients more wisely by making a diagnosis of heart disease only on decisively positive evidence instead of sometimes playing for safety at the expense of the patient's peace of mind?

It must be admitted that there are doctors who cannot or do not take the trouble to obtain and judiciously evalute all the evidence as to whether the patient's symptoms are produced by genuine heart disease or by something else. It is safer for the careless doctor or the one who doesn't know to give the disease, rather than the patient, the benefit of the doubt. Then, of course, there is the group of near-doctors out for the money, who see more profit in slowly curing the heart disease that never existed than they do in the honest practice of a beloved profession. The wave of fear of heart disease now so widely prevalent as a result of well-intentioned propaganda has provided all sorts of cultists, cure-all vendors and unscrupulous quacks with a harvest that they are not slow in reaping.

Too many of us are inclined to look upon the opening of school as a welcome relief from responsibility in the care of children. There's danger in that point of view. We cannot depute the training of our children to strangers. Nor will anything take the place of home training. . . . Discipline makes the man, honor makes the gentleman. But it is in the home that habits of discipline are formed. And a sense of honor grows in the family circle. School is the agency by which learning is attained, but home is the place where character is made.—Editorial, Dearborn Independent.

- *The* MONTH *with the* EDITOR -

Notes, reflections, comment upon medical and health news in both the scientific and public press, briefs of sorts from here, there and everywhere.

We are delighted to see by the papers that the movement to replace the useless and depressing influence of "long lines of white beds, unbroken ugly walls, and the disagreeable odors of the traditional hospital ward," with more attractive, restful and comfortable allocation of space for institutional victims, has been taken up by the army.

If other government "hospitals" will only add their influence, this inexpensive addition to the welfare of the sick, injured and shut-ins, soon may be what it should have been for many years.

It doesn't cost any more to accord the sick in hospitals the ordinary privacy and common decencies demanded by healthy people than it does to serve them a la stockyard fashion.

The full-fledged physician and surgeon of today in America and Europe must of necessity be a most extraordinary person. One wonders that the human brain can contain all that the doctor of the present day must know.

If we were asked to say which class of men in the world we consider most useful—which class of men have blessed humanity to the greatest extent, excepting the ministers of religion—we would unhesitatingly name the doctors.—John S. McGroarty, Los Angeles Times.

"Dr. Mariana Bertola, president California Federation of Women's Clubs, prefers to rely upon public sentiment rather than upon legislation in caring for 'California's most important crop'—her children. What is grandmotherly legislation for adults is apt to be stepmotherly for children."—This editorial from some newspaper was sent in by an unknown correspondent.

The Women's Clubs will add a bright star to their diadem when they succeed in having established a decently clean, well-conducted children's department for the little ones of indigent parents, in every county hospital in California.

It is a big job, and an important job. Of the some forty such hospitals not over a half-dozen now have such space and corresponding service.

Recently the Chicago daily papers carried Associated Press dispatches showing that some of the ringleaders in the Hoxide Cancer Cure at Taylorville had been arrested for fakery and fraudulent transactions in connection with the exploitation of the cure. It is reported that even the United States Government has taken a hand in the matter by entering prosecution for using the mails to defraud. Thus another quackery bubble is bursted, but there will be more to take its place, for a sucker is born every minute, and as long as there are victims for the faker there also will be fakers to prey upon them.—J. Indiana M. A.

There is something to think about in a report of the census bureau to the effect that inmates of mental disease hospitals have increased nearly 300 per cent in forty years.

At the present rate only citizens on "parole" will be at liberty in a few generations.

Recent studies in the causes of mental deficiency seem to indicate the utter futility of sterilization or education as preventives.

However, mental defectives above the zero of intelligence can learn something, often enough to escape dependency, and that something they should have.

"What Price Syphilis," is a favorite topic for writers these days, and well it may be. Syphilis is, and for ages has been, the greatest morbidity-producing disease affecting mankind.

The statements of long since dead masters, to the effect that he who knows syphilis knows medicine, and that control of the disease will eliminate the greatest of all scourges, are still true today.

What are we doing about it? Not much. What can we do about it? Quien sabe.

Smallpox, rabies, diphtheria, typhoid, are surely, easily and inexpensively preventable. All people who read even newspapers know this, and yet these dreadful pests continue to take their toll among even intelligent people. Whatever the answer may be, it no longer may be lack of information.

If health education fails in simples, can it promise more in the expensive or less well-understood phases of disease limitation?

There is a lesson to be learned from the distressingly low birth rate among women gainfully employed. There were 8,500,000 women gainfully employed in 1920, of whom two million plus were married. The number doubled in the thirty years from 1890 to 1920.

If the current rate of fall in births continues, we will be compelled to substitute Birth Booster Leagues for Birth Control Leagues.

Ever since Sir Walter Raleigh's servant threw a bucket of water on him when he was enveloped in a cloud of tobacco smoke the controversy concerning the effects of tobacco has existed. Moreover, judging from the progress which has been made toward a solution, it will continue to exist for some time to come.—International Medical Digest.

It is here laid down as a postulate that a doctor appears in the lay prints in direct ratio as he seeks such advertising, and inversely as he discourages it.—South. M. and S.

The era of unrest has invaded the field of medicine. Everyone seems to be looking for trouble. No one can rest easy unless she has had a "thorough examination." The phrase "periodic health examination" is crowding out the old phrases, "psychoanalysis" and "inferiority complex." School teachers, who begrudge $3 for a doctor's midnight call to determine whether their abdominal pain means too much ice cream or a rupturing appendix, are falling over themselves to pay $20 to have their "lives extended." There is confusion in it all. Many of the examinees feel that the examination itself will extend their lives, and the longer the examination the longer the life.—Donald S. King, Boston M. and S. J.

It is usually a doctor's reputation that makes him great, and it isn't what he knows, but what he can make others think he knows that gets him his reputation.—J. Kansas M. Soc.

Angina Pectoris and Pseudo-Angina—The material for this study was summarized by Eugene S. Kilgore, San Francisco (Journal A. M. A.), from the records of 253 patients complaining of pain in the region of the heart or, in two instances, pain elsewhere which was thought to be related to the heart or the aorta (stinging effort pain in both wrists with syphilitic heart and aorta, and viselike effort pain in the back in a case of hypertension angina). Pain obviously due to pleurisy, herpes, etc., is not included. Most of the cases were readily classifiable into three main types: (1) lancinating, (2) dull, and (3) compression pain. Lancinating pain greatly predominated (136 cases), and with few exceptions was in the precordial region; dull pain comes next in frequency (114 cases) and was also mostly precordial, but not infrequently substernal; and compression pain, while distinctly less frequent in general (forty-five cases), predominated in the central chest location, and was about equally common in the precordia. Of the total number of cases (253) the circulation was normal in 100. There were thirty-six cases of angina pectoris among the 153 cases of circulatory disease. The small angina group was conspicuous for its paucity of lancinating pain. Only one of the four instances was unassociated with other types of pain. On the other hand, the angina group nearly monopolized the compression pain, especially under the sternum where seventeen were angina, three other types of circulatory disease, and three "normals." Lancinating pain was about equal in frequency in the "normal" and general pathologic groups; but when the group sizes are considered it was relatively more common among "normals": 66 per cent of "normals" and 44 per cent of the general circulatory disease group. Dull pain occurred in 42 per cent of the "normals," 53 per cent of the general circulatory disease group other than angina, and in 28 per cent of the angina cases; but, whereas the location of this pain in the angina group was nearly equally divided between sternum and precordia, the others show a strong predilection for the precordia. From these descriptions of pain types and their locations, it appears that in a given case, when the question of angina is raised, the quality, timing and topography of the pain often furnish strong presumptive evidence. Other important data to be derived from histories relate to pain radiation, exciting causes, means of relief, etc. Among fifty-three instances of radiation in the whole disease group lancinating pain at the point of initiation occurred fifteen times; dull pain, seventeen times, and compression pain, twenty-one times. All but one of the thirty-six angina patients recalled definite and usually constant and immediate relation of physical effort to the onset of pain (two instances of lancinating pain; seven, dull; twenty-six compression); six of them also recognized mental excitement as an immediate cause of pain (two, dull; four, compression pain); and twenty-three were conscious of being more susceptible after meals (four, dull; nineteen, compression). Only one thought that his pain (dull) was more likely to occur some time after completion of effort. The figures in this analysis suggest that possibly dull pain is less commonly a sequel of effort in the non-angina pathologic group than among "normals"; that mental excitement is more often followed by all types of pain in the general pathologic group, and that these "normals" are more prone than others to experience delayed association between effort and dull or lancinating pain. During attacks of angina it is quite common for the patient to feel "as if the wind is cut off" by the constricting sensation of the pain, or he may breathe naturally or may expand the chest in an effort to relieve the pain. On the other hand, patients in the other groups, when they describe any respiratory relations to the pain, usually say they hold the breath for fear of increasing the pain. Palpitation in the sense of consciousness of heart action independent of exercise or excitement, extrasystoles, and the like, was noted in 25 per cent of the angina cases, 51 per cent of the remaining pathologic group, and 53 per cent of the "normals." Cutaneous hyperesthesia or hyperalgesia was noted at times in all groups, but most cases were seen some time after attacks. Means of pain relief were the usual ones in the angina group (cessation of effort, nitrites); in the others, general regulation of rest and exercise, psychotherapy and bromides.

MEDICAL ECONOMICS AND PUBLIC HEALTH

With a letter commending our editorial (September issue) on the hospital crisis in England, Dr. Truman O. Boyd, chief of staff, St. Mary's Long Beach Hospital, supplies a copy of a recent address, from which we extract:

"Shall we, the public, take over the entire hospital system, operate it as another feature of government and support it by perpetual taxation, or will we encourage the hospital development on a competitive business basis? This is a serious question confronting us today.

"Already our supposedly strictly charitable institutions are receiving patients on a part-pay basis, many of whom are amply able to pay for the best of care. Placing the private enterprise in direct competition with a public institution whose deficiencies are met by taxation and taxing a private enterprise to support its competitor—what could be more absurd?

"To my mind there can be but one answer if we hope to keep off the rocks and that is, to encourage the hospitals on a competitive business basis and support them with such private endowment as they are able to command by the character of the work done.

"And such charity as is extended should be extended through these institutions, whether of public or private nature, in proportion to the needs of the individual.

"There is no escaping this issue. If we are to tax ourselves for an occasional hospital and its support, or continue to receive pay patients at our public charity institutions in competition with private business, we will ultimately destroy a private business which is well established and invite for ourselves inevitable disaster in a perpetual burdensome taxation.

"If pay or part-pay hospitals are to be built or supported in whole or in part by public taxation in order to reduce the cost of hospitalization, then why would it not be good charitable public business to support drug stores, groceries, dry goods, etc., by taxation, all of which supply necessities for the sick?

"The fact is that in our desire to be charitable we cease to be practical.

"There is not too much charity; there is too much misdirected charity. The best way to help the individual poor or the poor as a class, is to help them to help themselves.

"There is no other form of charity so laudable as charity extended to the destitute sick. No other appeal for financial assistance receives such ready response.

"These facts are well known and taken advantage of in soliciting aid for various organizations working under different titles of social welfare, numerous and confusing, some of which perform a very useful function and some of which do little more than furnish salaries for a staff that delight to bask in the limelight.

"It is to the semi-endowed charitable institution that we are indebted for the present state of development of hospitals.

"They are competitive organizations and through these institutions public charity hospitalization should be extended in proportion to the individual needs, because it is a well-demonstrated fact that it can be done with greater justice to the individual and at far less cost to the public."

In discussing the family physician's place in the inspection of school children (J. A. M. A., September 18), Dr. Mary Evelyn Bryden asks the interesting question, "Why should a physician be expected to move his workshop to a lay workshop and there, either for pay or without pay, either with poor equipment or with none, be expected to prostitute a scientific knowledge and ability to an efficient, unscientific, hasty, incorrect procedure called 'medical' only because it is performed by a licensed physician? Every physician knows that the so-called medical examination as performed in the average school room is a delusion and a folly. It is not an examination. It is a

bare inspection. Better than anyone else, the physician knows how nearly it is worthless."

Most practicing physicians will endorse these statements, and all of them know they are true.

This illuminating comment (J. A. M. A., September 18, p. 953), reveals interesting trends in bureaucratic medicine in England: The council of the National Medical Union, an association of physicians opposed to the panel system, takes exception (1) to the proposal to set up a tribunal composed of three physicians and one legal assessor to deal with cases of infringement of the regulations, instead of these cases being dealt with, as at present, by the ordinary courts; (2) to the proposal to empower the home secretary to withdraw from physicians found guilty by the tribunal the right to possess and even to prescribe dangerous drugs, such penalty having the effect of making it impossible for such physicians to continue in practice; (3) to the proposal to make the home secretary the final authority without right to appeal to the courts of law, which proposal is contrary to the basic principles of British justice; (4) to the proposal to place on non-dispensing physicians the obligation of keeping records of their purchased supplies of the dangerous drugs, on the grounds that the properly made out prescription or order, which is retained by the wholesale or retail chemist, contains all necessary information and is sufficient safeguard. The union holds that the attempt which is being made in various directions to bring the members of the medical profession under bureaucratic control must be resisted; otherwise the profession will become pawns in the hands of officials and government inspectors.

It is the duty of the physician, says the Detroit Public Health Department, to care for the health of the school children. The first step in this care is a careful examination. The Health Department is attempting to stimulate an interest in the examination of school children by their own private physicians.—Bull. Wayne Co. Med. Soc.

A lot of people have felt for a long time that something was being overlooked or ignored in the "statistics" being fed from a government bureau to the effect that childbirth hazards are greater in the United States than in most other civilized countries; but it is only recently that anyone has bothered to look up data and openly question this propaganda paid for out of taxes:

John Howland, pediatrician in chief, Johns Hopkins Hospital, Baltimore, a conceded authority in the medical and hygienic care of children, said:

"I am quite sure, from considerable experience with statistics, that there is no basis for the statements that the United States stands seventeenth in the maternal death rate. Even civilized countries have not sufficiently accurate statistics to enable anyone to make a definite statement such as this." (House Hearings, United States Congress, 1921, p. 270.)

Again, the Vital Statistics Division of the United States Census Bureau, the only real statistical bureau we have on this subject, says in its latest report, Mortality Statistics, 1923, p. 61:

"How do the death rates from puerperal causes per 1000 live births in the birth registration area of the United States compare with the rates in foreign countries? Here again is a question of the greatest interest and importance which cannot be answered satisfactorily, both because of lack of data in this country and because there is no certainty that all deaths from these causes are classified in the same way in these various countries."—George Madden Martin.

So that's that!

Many private health agencies are following out policies decidedly inimical to the future good of our social organization. They have gone too long and too far without competent direction and control. They need to pause and take stock of their policies and their objectives before they become too firmly committed to a course of action. Many bizarre theories are being pushed and many doctrines contrary to our traditions are being promulgated. I would not stifle progressive thinking, but I would suggest adequate control in the functioning of some of the newer social forces that deal with health problems.—F. L. Rector, Editor The Nation's Health.

Motion pictures have become such a useful and important part of patient's records—particularly surgical records—that the Schwabacher-Frey Stationery Co., 735 Market Street, are now advertising the Filmo Automatic Motion Picture Camera to doctors and hospitals through our columns.

Among the doctors in San Francisco alone who get both pleasure and profit from these compact little instruments are: G. H. Juilly, M. D., 133 Geary Street (French Hospital); B. F. Alden, M. D., 1195 Bush Street; George Warren Pierce, M. D., 490 Post Street; Elbridge Best, M. D., 384 Post Street; W. Edward Chamberlain, M. D., Lane Hospital; Robert R. Newell, M. D., Lane Hospital; H. C. Warren, M. D., 384 Post Street.

You will help your magazine and a good movement by mentioning this advertisement when you call to look at these instruments or write for literature and information.

"Why should not our 15,000,000 insured persons be entitled to the fullest medical and consultative skill which at present can be got by the rich man who pays for it in Harley Street?" asked Sir Walter Kinnear, controller of the insurance department of the British Ministry of Health, in a public address. "We want," continued the speaker, "clinics throughout the country; we want places where the general practitioner and the specialist will meet together with a view to diagnosis and treatment; we want domiciliary visits of specialists and consultants in the homes of the people who are unable to travel to those clinics. One of the most disheartening things," Sir Walter concluded, "in the administration of the Insurance Act was the large sum of money spent every year on drugs, amounting to between two and two and a half millions. There was a great wastage of money on drugs, and unless there was some diminution it would be necessary to make efficient administrative arrangements which would tend to check expenditure. He was convinced that timely treatment in convalescent homes would be of more value than all the drugs in the British pharmacopoeia."

Coming from such a prominent source, this statement contains food for serious reflection for everyone interested in the rolling barrage of socialized, or governmentalized, medicine and health.

Dr. W. W. Goodrich of San Jose sends us an editorial clipping from the "West Side Advance," a Fresno County weekly, from which we quote:

"The position of the country town doctor is not an enviable one. Once the place was sought by young medicos, but that was long ago, indeed. Today it is difficult to fill the position if the incumbent dies or moves away.

"What are the things that tend to keep a doctor in a community? One of the most important is that bills be paid promptly. The opinion seems to be general that physicians make a great deal of money. This may be true of specialists in a city, we do not know, but very few doctors in the small towns make even a decent living. Patients use their skilled services to the limit and then try to get out of paying, or delay paying just as long as they can. They pay the butcher, the baker, and the candlestick maker first, and the physician last, or never."

After further amplification of his theme, Editor F. I. Drexler concludes with the advice:

"Appreciate your local doctor. Use him, and use him right. Get his services when needed and pay him promptly. Then in the time of need in your own home you will gladly welcome the man of science who by the promptness of his response, may be the means of saving the life of a loved one."

New York County Medical Society makes the following interesting recommendation regarding radiological laboratories:

1. The director of each x-ray laboratory must be a licensed physician, shall apply to the County Medical Society for a certificate, and shall submit the evidence of

approval of his x-ray laboratory by the Department of Health of the city of New York.

2. Since the practice of roentgenology is a branch of the practice of medicine, the physicians conducting x-ray laboratories shall conform to the code of ethics binding on all members of the profession. This prohibits the giving of a discount, rebate, commission, bonus, contract practice, or any other division of fees.

3. Advertising in periodicals or by means of circulars should, in the interests of the public welfare, be limited to professional cards in medical publications. Professional cards may state the name, address, office hours, telephone and operator's activities in a fashion similar to that practiced by other specialists.

4. The use of a trade name for designating x-ray laboratories directed or owned by licensed physicians is a violation of the Medical Practice Act.

The annual report of the Surgeon-General, United States Army, to the Secretary of War for the year 1925 divulges the information that the average number of patients in army and associated hospitals each day during the year 1925 was 6262, of which 30 per cent were beneficiaries of the United States Veterans' Bureau.

The total cost of this hospitalization, including repairs to buildings and such slight additional construction as was done, and the maintenance of roads, walks, and drives was $4.95 per patient per day or 33 cents below the cost during the preceding year.—The Modern Hospital.

Recently in discussing with the people of Hayward (California) some of the problems of organizing, building and operating a small hospital, Howard H. Johnson, director of Saint Luke's Hospital, San Francisco, gave some sound advice of importance to all persons and organizations interested in developing the splendid movement for more and better small hospitals.

Johnson said: "Hospitals are pretty much like watches. When one looks into a small watch he is pretty sure to find as many wheels and nuts as he will in a large one. These small wheels and nuts naturally require more delicate balance, oiling and care than the large ones do. They are closer together and may develop friction. The small boy when he has a watch usually carries a turnip. The small community frequently has a turnip hospital, but if the analogy carries and some one wide-awake person will wind and set the turnip as carefully and as often as the boy does his turnip, it will do more accurate work than those $1000 Swiss watch hospitals that are never cleaned, set or wound up. So you see I view the small hospital question with a great deal of respect.

"In general terms, it may be said that the small hospital should be as modern and scientific as a large one and that inasmuch as each community has its own particular problems, ideas, and ideals the hospital will have to be adapted to and made to meet these particular demands scientifically, sympathetically, and specifically.

"It goes without saying that the house and hotel side of the small hospital should be as clean, comfortable, and homelike as funds will permit, and there are volumes in this one word 'funds' if we could have time to discuss it. The hospital side should include adequate operating, x-ray, laboratory, physiotherapy, records, admission and office facilities. I mean by adequate just a little bit ahead of actual demand. That means growth. In large hospitals we have a professional staff, supervisors, technicians, full and part-time doctors, and trained clerks for each of these departments. All of these are not available; in fact, few of them are usually available in small hospitals chiefly on account of the cost. This subject 'personnel' is the mainspring. Properly trained, sympathetic personnel, though inadequate, in numbers, with the urge to serve sick people can take over a barn, a barrack, or a tent and turn out cured improved and grateful patients. Where the other kind of personnel working on the daily grind 'pass the buck' principle where the word 'institution' has crowded the word 'hospital' off the stationery will turn out saddened, unimproved patients. The individual in the small hospital will have to be exceedingly versatile and energetic, and because of the fact that he will come into more intimate and frequent contact with the patients, he will in all probability be more sympathetic and appreciative of what it is all about than the individual in the large hospital. In either large or small hospitals much depends upon the balance wheel—manager, director, or owner. The balance wheel is responsible for regular, accurate, continuous performance and, come to think of it, who ever heard of a watch with two or three balance wheels? Right here we frequently find a loose screw which may slow up or stop the wheels. If the town plasterer receives $18 a day, why should 'X,' who is operating-room supervisor, laboratory and x-ray technician receive $3.50 a day? Do you, or the prospective patients who insist upon aseptic surgery, accuracy in laboratory procedures and twelve hours a day, expect weak human nature to supply *all* the people now demanded for hospital work at so much less than is given in other work and with the privilege of working in the hospital as a bonus? If you haven't thought of the possible applications, ramifications and possibilities of this subject it would be well to think; if your people haven't thought, educate them. Have them study the room rates in the hotel, where meals, tips, porters, etc., are extra and compare them with the hospital rates with meals served in rooms and endless, highly specialized, scientific service thrown in.

"In general terms, though, a hospital will get out of a community about what it puts in. Doctors and patients will go to a hospital if there is something there that they want. Rochester, Minnesota, was a small unheard of town a few years ago, and today patients go there from everywhere.

"The good small hospital differs from a good large one in its size, the size of its various departments, but in no other way."

A baking powder concern has issued an interesting 94-page booklet purporting to explain the legal warfare that has been going on between the manufacturers who use alum in their product and those who do not.

So far as we are informed, the only excuse for using alum is in order to make a cheaper product. The "no alum" group have been so active in advertising the superior merits of their product that the opposition appealed to the Federal Trade Commission for relief from what they seemed to class as unfair advertising.

They did not get it, and the booklet explains why.

The interesting phase of this important public health question is that the decision on a health matter was made by a court apparently innocent of scientific medical knowledge.

We presume the public will continue to read of the doings of baking powder kings, particularly those somewhat puckered by alum.

Chemists are far from gaining any insight into the meaning of life, but it is not unlikely that we shall, in the near future, obtain some information regarding the mechanism of the action of the enzyme, the important agent in the nonliving transformation of living matter into chemical products. It may be that organic chemists are waiting to see how Willstätter, who has already made great progress in enzyme chemistry, will surmount the difficulties confronting him, and it may well be that this great organic chemist will introduce new methods of attack which will open up fresh fields for investigation.—J. F. Thorpe, Science, September 3, 1926.

Contrary to a rather widespread belief, even the complete sterilization of all our mental defectives would not be successful in ridding the world of feeble-mindedness for more than a single generation. This is the conclusion reached by "The Lancet," foremost medical and surgical journal of Great Britain, in an editorial. If these facts be so, then the much-advocated plan of some social reformers would come virtually to naught, for about 7 per cent of us are unsuspected "carriers" of feeble-mindedness, in whose children or grandchildren the latent quality would reappear. Thus the work would have to be done all over again.—Scientific American.

More than one-half of the civilian employees of the government, not counting letter carriers and clerks, are the most expert loafers and time-killers in America. It is the spirit of government service. Buck-passing is the favorite and accomplished practice.—Congressman Davey.

CALIFORNIA MEDICAL ASSOCIATION

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.....Secretary and Associate Editor for California

CLINICAL PRIZES

Rules for the Submission of Papers

The Committee on Clinical Prize Awards desires to call the attention of the membership to the following rules governing the submission of papers for the benefit of those who desire to compete for the 1927 prizes:

1. Any member of the California Medical Association is eligible to compete for the prizes. Any question arising as to the eligibility of a candidate or the admissibility of his essay will be settled by the decision of the Council.

2. Manuscripts must be typewritten on one side of the paper; they must be double spaced; and they must not be folded or rolled. Illustrations or charts must be marked with the title of the paper to which they belong.

3. Essays must not contain more than 4000 words. In judging a paper the committee will take into account the basic importance of the work done and its novelty; the thoroughness with which the research has been carried out; the clearness with which it has been written up; and the neatness of the manuscripts and illustrations.

4. Papers should be sent, preferably by registered mail, to Dr. Emma Pope, secretary of the California Medical Association, 1016 Balboa Building, San Francisco. They should be identified by a nom de plume or motto only. A separate envelope should be sent to Doctor Pope containing the author's name and his nom de plume or motto, so that after the award is made the name of the writer can be found. Any return addresses or distinguishing marks will be removed from the wrappers before the papers are turned over to the judges.

5. All papers must be in the hands of Doctor Pope before March 15, 1927, in order that the judges may finish their work in time for the meeting of the Association.

6. The judges reserve the right to withhold the award, in the event that no paper comes up to the standards of excellence which they feel should be set.

7. If, in the judgment of the editor of CALIFORNIA AND WESTERN MEDICINE, and the editorial councilors, the paper on laboratory research is too technical or otherwise unsuitable for inclusion in CALIFORNIA AND WESTERN MEDICINE, the prize winner will be allowed to publish it in some special journal and will be required to make an abstract for the readers in California.

8. Inquiries relative to the prize contest should be addressed to the chairman of the committee, Dudley Fulton, 1135 Pacific Mutual Building, 523 West Sixth Street, Los Angeles, California.

ALAMEDA COUNTY

Alameda County Medical Association—The regular monthly meeting of the Association was held at the Ethel Moore Memorial Building, September 20, J. K. Hamilton presiding. The program was presented by L. I. Oppenheimer, R. J. Sharpsteen, and Dudley Smith, who prepared the following papers:

"A Discussion of Three Cases of Bilateral Kidney Calculi" (L. I. Oppenheimer). The incidence of bilateral occurrence of upper urinary tract stones ranges around 12 per cent. In the Alameda County Hospital, from 1921 to the present time, one out of every fourteen of these cases has been bilateral. In the Oakland Health Center Urology Clinic for the past two years, of the five urinary stone cases two have been bilateral. These and a private case of bilateral kidney stones are under discussion. The symptoms of the two clinic cases with the enormous bilateral stones were not characteristic of renal calculi, while those of Case 3, with comparatively small calculi, were typical. The function of one of the kidney's with enormous stone in it was nil; another with a larger stone was 90 per cent normal. It was only with the patient with the typical symptoms that a differential diagnosis had to be made. His calcified prostate, pyuria and vague kidney shadows necessitated the ruling out of renal tuberculosis, which was done by the findings of sterile kidney urine and good kidney function. Surgery was not indicated with the two giant calculi cases due to the impossibility of complete removal of the concretions without tearing the kidneys to pieces. With the case having smaller calculi, complete removal of all the stones was essential. This man, with the multiple, disseminated, inaccessible stones of the left kidney, was sent to Brash and operated upon by Hunt, with aid of the renal fluoroscope at the operating table. On his return the small calculi of the right kidney were manipulated out. Roentgenograms taken a year after these procedures showed no evidence of recurrence. Conclusions reached from the study of these three patients are: (1) Early diagnosis and treatment is essential, otherwise, among other disasters, inoperable conditions such as have occurred in Cases Nos. 1 and 2, may ensue. (2) Roentgenology in suspected kidney and ureter conditions should be a routine. (3) The possibility of manipulative removal of smaller kidney and ureteral calculi should not be neglected. (4) The renal fluoroscope used at the operating table is the surest method of complete removal of disseminated inaccessible calculi. This complete removal prevents recurrence, which accounts for the improved prognosis of present-day urinary calculi surgery.

"Prehistoric Trephining" (Jay Randolph Sharpsteen). The author has had the opportunity of examining and recording the findings on over one hundred trephined skulls from Peru, and is of the opinion that the operation in Peru was done for the relief of fracture and projected several photographs to support this. There was a remarkable amount of healing in the vast majority of trephinings, indicating that not only did the patient survive the operation, but lived long afterward. Some specimens showed one, and one showed two, subsequent operations. The ages of the individuals were mostly in middle life, and some were quite old. Males were in the majority, of about 7 to 1. Undoubted evidence of antemortem fracture was found in 45 per cent, indicating that if those cases in which all fragments were removed at the time of the operation, or those in which the healing processes had obliterated all signs of fracture, were added to this, the probable percentage of fracture would be close to 90. Pictures of specimens made by the author, and by Dr. Wilson Parry of London, illustrating the various types of prehistoric trephinings, were shown. Pictures of pottery depicting various cutaneous diseases were also shown. The assistance of Wallace Terry, Howard Naffziger, C. W. Mead of New York, Charles Singer and T. Wilson Parry of London, and Prof. Max Neuberger of Vienna, in helping secure specimens of skulls, and also manuscripts for the preparation of the treatise of which this short paper forms but a small part, is hereby acknowledged.

Dudley Smith discussed the "Importance of and the Technique of Rectal Examination." He pointed out the necessity of more attention being paid to diseases of the rectum in our medical schools, and stated that many patients are suffering from some disease, the relief of which would be assisted, or entirely accomplished, by the treatment of pathological conditions discovered only upon rectal examination. He said that many symptoms which do not point directly to this region, such as disturbances of digestion, menstruation, and the functions of the urinary organs, as well as headache, sciatica, joint pains, anemia and the various symptoms of focal infection, are often the result of diseases originating within the confines of the lower bowel, and that many diseased conditions of the rectal cavity may progress to an astonishing degree without causing any local pain on account of the lack of sensory innervation of this region. He said that no case of constipation, particularly of the chronic variety, should ever be treated until a complete examination has been made and that many cases of so-called constipation, which is thought to be purely a functional condition, are in reality due to mechanical causes. No physician, said Smith, would undertake treatment of symptoms referred, for example, to the throat or the

eye or the vagina, without direct inspection, and it is to be regretted that many patients are satisfied to keep on detailing their symptoms to their physician who, without ocular or even digital examination, serenely prescribes some suppositories or ointment, and later on is much chagrined to find that the patient does not improve. Such practice is an injustice to both patient and doctor, and meets its most tragic conclusion when cancer of the rectum is thus overlooked, until it has advanced to a hopeless state. No general examination is complete until the rectum has been examined. Doctor Smith showed the instruments he considered most suitable and explained the technique of using them, closing with an appeal to the profession to become familiar with the simple technique of rectal examination, and thus insure discovery of disease in this region which is now so commonly overlooked.

The president then introduced the new members, after which Doctor Majors read a tribute to the late W. D. Huntington.

The meeting adjourned out of respect to Doctor Huntington.

PAULINE S. NUSBAUMER, *Secretary.*

CONTRA COSTA COUNTY

Contra Costa County Society—The first of the fall meetings of the Contra Costa County Medical Society was held on September 25, 1926, at the offices of U. S. Abbott, in Richmond.

S. N. Weil, secretary, of Selby presided in the absence of President McCullough of Crockett.

Clifford Sweet of Oakland gave a very instructive address on the subject of "Pediatrics." He was cordially received.

A committee of three was named by the Chair to investigate the application of L. Wuesthoff for membership. Those named on the committee were Keser, Hely, and Carpenter, all of Richmond.

S. N. WEIL, *Secretary.*

SACRAMENTO COUNTY

Sacramento Society for Medical Improvement—The September meeting was held in the Gold Room of the Sacramento Hotel on the 21st, President Schoff presiding. The minutes of the June meeting were read and approved.

Under Case Reports—Gundrum reported the interesting occurrence of oxycephaly in one, with rickets in the other twin. In this, apparently, single ovum twin, both children were reared under the same conditions and subject to the same feeding. Gundrum pointed out the probable influence of heredity and the endocrines. Crawford inquired as to the presence of optic atrophy in the child with oxycephaly, as he had recently seen a case of this sort with marked atrophy. Gundrum's case did not have any.

Drysdale reported a case of a ruptured right salpinx plus the presence of a double right ovary. The history of this case was of a special interest, due to the fact that there had been a tremendous amount of pain referred to the right hip.

Schoff demonstrated a man showing extensive psoriasis. The interest here was the fact that we had a man who pigmented readily under light therapy and yet there was a constant progression of the psoriasis. Under glandular treatment of thymus the patient was now showing great improvement.

The principal paper of the evening was presented by J. William Crawford, now associated with Walter Scott Franklin and Frederick C. Cordes in San Francisco. He chose for his subject the "Management of Squint."

The origin of the condition was declared to be lack of development of the fusion faculty. It is highly important that we approach the treatment of this condition with the idea of preventing amblyopia rather than to obtain merely a cosmetic result. Crawford appealed to those first seeing these cases to prepare for their immediate treatment, not simply to prescribe glasses and wait, or to advise the parents "that the child will grow out of it." There are three important measures to be adopted in treatment. First, the correction of any refractive error; second, the occlusion of the eye (while not being trained) to prevent amblyopia, and lastly, the training of the fusion faculty. Crawford demonstrated the Worth amblyoscope, reviewing the various types of slides used in this: first, those slides used for binocular vision; second, those for amplitude; and third, those of perspective. It is very interesting to note how rapidly these children improve when satisfactory co-operation of the parents is obtained. In conclusion, Crawford suggested that but a very small percentage need operating, and when this is required there are three types of operation to consider: tucking, advancement, and the Reese resection.

The paper was discussed by J. Roy Jones, W. E. Briggs, E. C. Turner, C. E. McKee, and E. T. Rulison. They referred to the importance of the immediate starting of treatment, the necessity of complete parental co-operation, and the fact that the location of an apparently definite fusion center was unknown. A question was also asked as to the status of prisms in the present therapy. Crawford responded by suggesting that prisms were no longer used, due to the fact that the defect was not in the eye itself, but in the brain.

Crawford then spent a few minutes telling us of a great number of relatively new ideas he had picked up in his last two years spent in Philadelphia. These touched upon such subjects as the injection of mercury cyanide in early cataracts; a review of the present tendencies in tonsillectomies, together with the frequent use of the laryngoscope; the waiting and subsequent "lid-lifting" methods as applied to mastoid infections; the routine x-ray examinations for the thymus gland in tonsillectomies; electrocoagulation of malignancies; the daily aspiration of secretion and membrane in laryngeal diphtheria; the use of bismuth and neosalvarsan in syphilis; the use of the Chinese drug, ephedrin, particularly calling attention to its value when used topically; the proper treatment of toxic thyroid, the value of having at one's command scores of donors immunized against various infections and, lastly, the extensive use of rectal anesthesia as well as the choice of ethylene as an anesthetic.

The application of Leonard W. Weaver was read for the second time, and a vote upon his name showed his unanimous election with thirty-two yeses.

The report of the Board of Directors referred to a number of communications, including a note from the Parkinson family expressing gratitude; a request from the secretary of the A. M. A. asking that action be taken on the report of the Committee on Medical Relief in Disaster; a letter from W. H. Miller telling of his return to Sacramento; and a note from the Los Angeles County Medical Society asking that we consider the appointment of a special state election committee.

A communication from Kurt Garve, now located in the Children's Hospital in Los Angeles, was read. Garve wishes an assistancy or association in Sacramento.

Under new business it was properly moved, seconded and carried that the Society adopt the report of the Committee on Medical Relief in Disaster, as presented at the last Dallas session of the A. M. A.

It was moved by Hale and seconded by Johnson and carried that we take adverse action on the recommendation of the Los Angeles County Medical Society suggesting the appointment of a special state election committee.

William Ellery Briggs read the report of the Committee on Resolutions anent James H. Parkinson. It was moved, seconded and carried that the recommendation of the committee "to spread these thoughts upon our minutes as a permanent reminder of the life of one we all cherished," and that a copy be sent to the family of Doctor Parkinson, be adopted. The motion of Topping, that appreciation be voiced for the committee drawing up these resolutions was adopted.

Under report of committee, the "1928" Committee stated that they had a promising outlook. The Program Committee announced that Howard C. Naffziger would present a paper on "Head Injuries" at our next meeting, in October.

Meeting adjourned.

BERT S. THOMAS, *Secretary.*

SAN DIEGO COUNTY

San Diego County Society—A steam shovel is actively at work excavating for the foundation of the new Medical Arts Building at Third and Ash streets that, with the completion of the Spreckels' Building now roofed in, on Broadway, will ease the office situation for some time to come.

On Tuesday, September 14, following the monthly dinner of the Medical Society held at the Golden Lion Tavern, the meeting was turned over to Capt. Raymond Spear, Commandant of the United States Naval Hospital, who presided while members of his staff presented a program of unusual excellence. Those taking part in the program were Doctors Spear, Miller, Garrison, Raison, Nappkamper, White, Dollard, and Satterlee. Of live local interest was the report of a recent epidemic of food poisoning following a barbecue in which eighty-seven cases were admitted to the hospital and treated without fatality. The following points about the behavior of the cases are not without interest: The average incubation period was about eighteen hours; many cases on admission were prostrated and some few in collapse; most of the cases were more or less dehydrated by reason of the profuse vomiting and bowel movements. The outstanding symptoms were headache, chills, pain in the back and legs, vomiting and profuse intestinal discharge; the temperature varied from subnormal to 102 degrees F. The treatment followed was prompt gastric lavage with solutions of bicarbonate of soda and the administration of castor oil and epsom salts for as free purgation as the patient's condition would permit. Administration of copious amounts of fluid and the relief of cramp pain with codein. Food was entirely withheld until the temperature reached normal. In connection with this report, Satterlee discussed the pathologic aspects of food poisoning in general.

On September 21, at the regular meeting of the staff of Mercy Hospital, William Potter discussed a case of carcinoma of the left kidney with surgical removal, subsequent shock and fatal termination. The case presented many points of interest. Robert Sharp presented an unusual case of acrodynia in an infant, discussed briefly what is known about this somewhat rare condition. Doctor Kendall reported a case with fatal termination resulting from an accidental infection of the face. Doctor Fox urged the waiting game in rapidly spreading streptococcal infection about the head, advising hot antiseptic applications and other palliative measures until the suppuration becomes definitely focalized. Fox reported a case of secondary hemorrhage into the bladder following a prostatectomy. This case after repeated evidence of multiple emboli finally resulted fatally, undoubtedly from emboli in the brain. Discussion was entered into by Lee and Oatman.

On September 28, the staff of the County General Hospital discussed a group of very interesting cases presented by members of the residence staff. Discussion was spirited, but free from acrimony; the sort of exchange of views that make clinical meetings of real value.

The trustees of the Medical Library met at dinner October 12, as the guests of President Higbee to discuss plans and to nominate officers for 1927.

The annual election of the county society occurs before the regular dinner of November 9, on which occasion the meeting will be addressed by Dr. E. L. Gilcreest of San Francisco.

At the October dinner on the 12th the Society will have as honor guest Dr. Frank Hinman of San Francisco.

On November 18, Dr. Elliot P. Joslin of Boston will be the guest of the Scripps Metabolic Clinic, and will speak in the evening on the "Outlook for the Diabetic." This paper is based on Doctor Joslin's intensive study of the diabetic question throughout the years 1892-1926, inclusive.

ROBERT POLLOCK, M. D.

SAN JOAQUIN COUNTY

San Joaquin County Medical Society—The stated meeting of the San Joaquin County Medical Society was held Thursday, October 7, at 8 p. m. at headquarters of the local Health Center, 129 South American Street. The meeting was called to order by Vice-President McGurk, in the absence of the president. The twenty-five members in attendance were: E. A. Arthur, E. L. Blackmun, C. A. Broaddus, H. S. Chapman, Fred J. Conzelmann, J. V. Craviotto, J. D. Dameron, Linwood Dozier, C. F. English, Minerva Goodman, E. C. Griner, R. R. Hammond, S. Hanson, J. P. Hull, R. T. McGurk, F. G. Maggs, F. S. Marnell, F. J. O'Donnell, Barton J. Powell, Dewey R. Powell, S. F. Priestly, G. H. Rohrbacher, George H. Sanderson, John J. Sippy, G. J. J. Vischi, and C. O. Bishop of Linden, California, as visitor; and Harold K. Faber of San Francisco as guest and speaker of the evening.

The minutes of the previous meeting were read and approved.

The committee on admission having recommended the acceptance of Winifred Biethan as a member, the chairman in accordance with the constitution declared Doctor Biethan duly elected a member of the Society.

Dewey R. Powell, chairman of the Committee of Medical Relief in Disaster, reported progress in getting matters started, and moved that the plan as outlined in the report of the A. M. A. Committee of Medical Relief in Disaster be adopted. The motion was seconded by Doctor Craviotto and carried. A vote of thanks was extended to Doctor Powell for his splendid report.

Doctor Powell requested authority to appoint the secretary of the local Red Cross Chapter, the chairman of the Red Cross Nursing Committee and a member of the dental profession to serve on the Committee of Medical Relief in Disaster.

The motion of Doctor Craviotto, seconded by Doctor Broaddus, that the chairman of the Medical Relief Committee be given authority to enlarge the committee as he sees fit, carried.

The committee in co-operation with the local Red Cross will make a survey of the county relative to the personnel and material obtainable, and attempt will be made to have everything in readiness for function in time of need.

Doctor Powell stated that he would circulate a written statement for all members to sign that are willing to place themselves under direction of the president of the Society or his duly appointed deputy in the event of disaster.

The chairman introduced Harold K. Faber, professor of medicine and pediatrics, Stanford School of Medicine. Doctor Faber spoke on the subject, "Cranio Deformities in Infancy and Childhood."

He pointed out that the principal types of this class of cranial deformities were tower skull and oxycephaly, conditions resulting from premature union of the coronal suture. In this last condition the cranial dome is insufficiently elevated and lateral extension takes place below, the temporal region bulges, and the zygomata protrude. Deformity of the optic foramina or pressure on the optic nerve are responsible for optic neuritis and blindness. There may also be loss of the sense of smell.

About 8 per cent of cranial deformities occur in the male sex. When the deformities are great, operative treatment is needed to correct them. The cause of the deformities is not definitely known; syphilis is not common in these patients.

The speaker showed lantern slides that illustrated the conditions in a striking way. The paper was discussed by several members.

FRED J. CONZELMANN, *Secretary.*

SANTA BARBARA COUNTY

Santa Barbara County Medical Society—The regular October meeting of the Santa Barbara County Medical Society was held at the Cottage Hospital on Monday evening, October 11, 1926, with President Henderson in the chair.

There were present seventeen members and one visitor, W. E. Johnson, who is associated with H. F. Pierce.

The minutes of the preceding meeting were read, approved and ordered filed.

The first paper was "Surgical Diathermy in Malignant

and Nonmalignant Growths," by Horace F. Pierce. This paper was discussed by Drs. Smith, Henderson, Mellinger, and Spaulding.

Samuel Robinson, who was to have given a paper, was called to Los Angeles on an emergency case.

William J. Mellinger reported a meeting of the American Academy of Ophthalmology and Otolaryngology.

Henry J. Profant gave a very brief outline of his trip to Vienna, covering only the high spots as to how the clinics are maintained and the names of the most prominent men associated with them. A more detailed report will be given later.

Following the program a short business meeting was held at which the resignation of Alex C. Soper as secretary-treasurer of the Society was read, he having accepted a position in the adjutant's office of the Reserve Officers' Association of the United States at Washington, D. C. It was moved and seconded that the resignation be accepted. It was then moved and seconded that William H. Eaton be elected secretary-treasurer for the remainder of the ensuing year. As there were no other nominations, Doctor Eaton was unanimously elected.

W. H. EATON, *Secretary.*

SANTA CLARA COUNTY

The Santa Clara County Medical Society met at Louis' Cafe, Gilroy, September 15, and enjoyed a fine dinner. About sixty doctors were present from the surrounding towns. H. E. Dahleen, president of the Society, called the meeting to order, and asked Jonas Clark of Gilroy to preside. An address of welcome was delivered by City Attorney E. D. Crawford. During dinner a musical program was rendered.

W. D. Sansum of Santa Barbara was the speaker of the evening, his subject being "Diabetes." John Hunt Shephard of San Jose explained several amendments to the by-laws of the county society which were unanimously passed. It was decided to hold the next meeting of the Society at Agnews.

Those present were: D. E. Tiffany, C. P. Durney, Raymond A. Wayland, E. P. Cook, D. R. Wilson, R. A. Whiffen, N. H. Bullock, Charles E. Moore, Bert Lohr, Phillip L. Wise, Stanley Dougan, Dorothea Lea, Reta Hough, H. E. Dahleen, R. S. Kneeshaw, Van Ralstern, F. N. Moore, A. S. J. Smith, D. P. Fagerstrom, C. M. Bueschfield, George L. Barry, John Hunt Shephard, Clara E. Sanders, George A. Gray, E. A. Tweed, San Jose; Marie Vachout, San Martin; Clara A. Silva, H. R. Chesbro, Roland H. Prien, Jonas Clark, Hugo Schmitt, John A. Clark, E. D. Crawford, Thomas Crawford, W. F. Blake, Gilroy; Roscoe N. Gray, San Francisco; Blake Franklin, E. M. Miller, Los Gatos, Charles Fernish, S. W. Dowling, Santa Clara; W. D. Sansum, Santa Barbara; L. C. Hull, Hollister; W. L. Teaby, W. M. Gratiot, Monterey; F. R. Anderson, Campbell; L. M. Linscott, Santa Cruz.

SANTA CRUZ COUNTY

Santa Cruz County Medical Society—The September meeting of the Santa Cruz County Medical Society was an enthusiastic one, with some forty members and guests in attendance.

The meeting, as usual, opened at 11 o'clock on a Sunday morning and closed with a 1 o'clock luncheon.

From 11 to 1 was devoted to a clinic on Periodic Health Examinations conducted by Ernest H. Falconer of San Francisco. A high school boy was used as a subject, and the outline and forms issued by the American Medical Association were followed in making the examination. Falconer commented on the uses and significances of the various headings of the form as he conducted the examination. Questions were answered and suggestions from members commented on during the examination.

So much interest was aroused for the work that a number of members expressed the intention of introducing the practice among their clientele.

The American Medical Association forms and booklets were distributed to all present, and the program committee proposes another meeting devoted to the subject, to which members of the Society will be asked to bring their own forms with the patient's part already made out, the objective parts to be completed by an examination of each other at the meeting. When enough members become interested to make such effort advisable the publicity committee hopes to awaken public interest in the subject among citizens of the county through co-operation of the five county newspapers, and by presenting its importance to public audiences.

Another possible method of bringing the subject interestingly before nearly all citizens individually is outlined in the following letter prepared for use by individual physicians to their patients, and which is now before the state and national medical organizations for a decision as to the advisability of its use:

"Dear ———: You no doubt are familiar with the fact that physicians, through this organization and individually, are urging the importance of periodic examinations of all people by their family physician as an important factor in the promotion of health. You should have this service for yourself and all members of your family, dependents, and employees.

This letter, which has been approved by the Santa Cruz County Medical Society, is being sent by doctors who elect to do so to persons whose names appear on their records, which explains your receiving this letter from me.

If you consider me your doctor at present, you are invited to call me up, make an appointment and secure this assay of your health and that of members of your family, dependents, and employees. The examination requires about forty-five minutes and may be arranged for a convenient time.

If for any reason you have changed doctors since I last saw you, please take this important matter up with your present physician, who, no doubt, will be glad to render the service for you. Obviously, the examination should be made by the physician who is to give the advice, instructions, and other treatment—if any—indicated by the findings of the examination.

Yours very truly,

———, M. D."

At the luncheon following the clinic, Dr. John Homer Woolsey of San Francisco delivered a eulogy of the late Saxton Pope, who practiced many years in Santa Cruz County, and always retained his place in the hearts of our people.

The president of the Society has appointed a medical milk commission consisting of Harry E. Piper, Lester M. Liles, Jessie Farmer, George P. Tolman, and Norman R. Sullivan. It is the duty of the commission to elect its own officers and arrange for the services of a veterinarian and an analyst—chemical and bacteriological—and to fulfil all other requirements of the national and state associations of medical milk commissions, including membership in these organizations.

SHASTA COUNTY

Shasta County Medical Society—At the regular quarterly meeting of the Shasta County Medical Society the following officers were elected for the coming year:

President, J. E. Taylor, M. D.; vice-president, B. F. Saylor, M. D.; secretary-treasurer, C. A. Mueller, M. D.

C. A. MUELLER, *Secretary.*

TULARE COUNTY

Tulare County Medical Society—The first monthly meeting of the Tulare County Medical Society for this season was held at Motley's Cafe in Visalia, October 3, following dinner at 6:30 p. m. The Society had present as their guests the dentists of Tulare County, there being eighteen present. The following members were present: Tilletson, Betts, Zumwalt, Gilbert, Paine, Ginsburg, Campbell, Brigham, Loper, Miller, Willey, Grosbeck, Hicks, Preston, Lipson, Edmund, Rosson, and Seligman.

The meeting was called to order at 8 p. m. by President Betts. The minutes of the last meeting were read and approved.

Charles Sweet, D. D. S., of Oakland was present and

spoke on the subject of "Children's Dentistry." Discussion followed.

Clifford Sweet of Oakland then spoke on "Factors That Influence the Child's Development: Heredity Period, Nutrition Period, Infection Period, and Posture Period." Discussion followed.

This meeting was the best attended and most enthusiastic of any that has been held for some time, and Tilletson of Dinuba moved, and it was unanimously carried, that thanks be given the Doctors Sweet for their addresses to the Society.

H. G. CAMPBELL, *Secretary.*

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CHANGES IN MEMBERSHIP

New Members — Erich Kosterlitz, Arthur Perkins, James C. Raphael, Arthur E. Rickmond, Theodore E. Reynolds, Oakland; William A. Johnstone, Fresno; William Charles Johnson, Fellows; Albert Allen, San Pedro; George S. Bliss, Pomona; Glen Bradford, Louis M. Earle, Emmett A. Fagin, Jean R. Heatherington, Katsuji Kato, Llewellyn D. Lewis, Wilbur Lucas, Rea Proctor McGee, Owen W. E. Nowlin, Joseph H. Pavlinac, Mark H. Smith, Marshall A. Welbourn, Charles J. Welker, Los Angeles; Joseph A. Chapman, Glendale; Henry L. Davis, Huntington Park; Francis R. McCrea, Dwight C. Sigworth, Long Beach; Tesla C. Nicola, Montebello; Harry Venzke, Wesley J. Wooston, Pasadena; Fred W. Wood, Alhambra;; Richard B. Penzotti, Rockport; John Albert Wahlen, Brea; Walter Earl Watkins, Santa Ana; William H. Byers, Blythe; Leonard W. Weaver, Sacramento; Chauncey M. Traver, Patton; Walter S. Cherry, Rialto; Elmer J. Davis, San Diego; William Dunlop Owens, Coronado; Minnie Berelson, Garnett Cheney, Esther B. Clark, Herbert H. Darling, Harvey K. Graham, Emile Fred Holman, Matthew N. Hosmer, Hiram W. Hunsaker, Mary Frances Kavanagh, Arthur C. McKenney, Jr., Ottiwell Wood Jones, Jr., Frederick C. Nass, Clarence C. Porter, Emile D. Torre, San Francisco; Samuel B. Randall, Santa Cruz; Robert E. Hughes, Gustine.

Transferred—Vernon G. Alderson, from Los Angeles County to Alameda County.

Elton R. Clarke, from Los Angeles County to Howard County, Indiana.

N. Fujimori, from San Francisco County to Alameda County.

George W. Garner, from Los Angeles County to Kern County.

Wilhelmina H. Jacobs, from Los Angeles County to Rock Island County, Illinois.

Resigned—Charles S. Ambrose, Henry S. Keyes, Los Angeles County.

Deaths—Adams, Charles Blackstone. Died at Santa Monica, August 28, 1926, age 54. Graduate of the State University of Iowa, College of Medicine, 1897. Licensed in California in 1909. Doctor Adams was a member of the Los Angeles County Medical Society, the California Medical Association, and the American Medical Association.

Nadeau, Hubert. Died at Santa Monica, October 11, 1926, age 88. Graduate of the University of Montreal Medical Faculty, 1862. Licensed in California in 1876. Doctor Nadeau was a member of the Los Angeles County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Selby, George Messick. Died at San Diego, September 26, 1926, age 47. Graduate of the Louisville Medical College, Kentucky, 1902. Licensed in California in 1924. Doctor Selby was a member of the San Diego County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Yale, Alford Elihu W. Died at Burbank, September 13, 1926, age 47. Graduate of the University of Michigan Medical School, Ann Harbor, 1904. Licensed in California in 1919. Doctor Yale was a member of the Los Angeles County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

EMANUEL CHARLES FLEISCHNER
1882-1926

Seldom has a blow been driven home to the hearts of men with the poignancy that came to us upon the death of Emanuel Charles Fleischner. It was so sudden, so unexpected, seemingly so unnecessary. Only a few weeks before we had greeted him after his long vacation, full of animation, vivacity, enthusiasm and life, and now we have lost him, he is gone. However, we cannot forget him, for he had a nobility of mind and heart that is given to few, and to him it was given in a transcendent degree.

It is customary to note the past activities and achievements of men in obituaries such as this. We might tell of Doctor Fleischner's youthful and brilliant career at Yale, of his long postgraduate work in Europe and New York, and the splendid way in which he prepared himself for his work in medicine. Seldom was a better foundation laid, rarely one as good. Once in practice every energy was given to the advancement of medicine. As professor of pediatrics in the University of California he endeared himself to his students as a brilliant and stimulating teacher; in every society—civic, state, and national—he stood out as a conspicuous leader. He wrote much and he wrote well, yet another might have had these intellectual qualifications in an equal degree and yet lacked those very qualities that made Charles Fleischner dear to all. His magnanimity, his charity, his kindness of heart, his consideration of others to the abnegation of self, stood out so conspicuously that we were all drawn to him. No wonder that children loved him and trusted him, for theirs is the language of the heart, and he was all heart. He brought more to the sickroom than skill, he brought the very benediction of his presence.

All will miss Doctor Fleischner. His death is a loss that no length of time can replace, yet our loss is small in comparison to that of his dear and devoted helpmate and wife. To her goes out our deepest sympathy and commiseration. Our condolences are beyond the expression of words; they are silent messages that one who knew and loved Emanuel Charles Fleischner with all her being can well understand.

UTAH STATE MEDICAL ASSOCIATION

W. R. CALDERWOOD, M. D., Salt Lake.....President
E. H. SMITH, M. D., Ogden.....President-Elect
FRANK B. STEELE, M. D., Salt Lake.....Secretary
J. U. GIESY, M. D., Salt Lake.....Associate Editor for Utah

SEEMING DISCRIMINATION

Attention of all reserve officers is hereby called to Bulletin 210-31 A. G. under date of September 14, 1926. Briefly, this is a ruling by the comptroller applying to the status of enlisted men in the United States Army who may have been granted commissions in the reserve. Briefly, it states that such a man may not be ordered to active service at a training camp and receive pay during such service in his commission grade. We understand fully the policy of not paying a man twice. We understand the possible intent of not paying an enlisted man as such, and as an officer during the same period, but—

Under the National Defense Act of 1920 the intent of the War Department has been to build up the reserve as a very important element in the defense scheme of this country. This ruling now removes from the enlisted man who has accepted a commission under this act the very incentive which may have caused him to take such action, and it furthermore prevents the intent of the granting of such commissions from reacting in the intended way. Because under army regulations such a man to gain promotion or advancement must have attended at least one training camp of at least fifteen days, and the ruling practically puts up a bar against his taking such necessary steps in quite automatic fashion. It is a fact that other men in government employ are permitted to attend schools on pay and are still paid for the service to which they belong at the time such attendance is given. Then why discriminate? Why should the man in uniform be barred from the privilege given other employees of the nation both serve? We wish all reserve officers would think this over and seek to devise some means by which action looking to a reconsideration of this recent ruling—which is no less than a direct blow at, to say the least, the morale of a part of the reserve itself—may be obtained. This could be well done perhaps in the form of resolutions asking for some such action, passed by reserve organizations, civil organizations of which reserve officers are members, and personal letters to appropriate legislators. We feel that such action might well constitute a patriotic service. Under the comptroller's ruling the War Department is practically helpless. Action must come from outside sources if at all. But we trust that it may come none the less, since come it certainly should.

AN INVITATION

The idea of a Utah section of CALIFORNIA AND WESTERN MEDICINE is to give representation to every part of the state in medical matters and consequently keep the entire body of the profession in touch with the activities of the several societies and their work.

Therefore, now that the component county societies have once more resumed meetings, we as the editor of the Utah section are again appealing to the secretaries and officers of these various societies or to any member of any society to send in to the office of the Editor, Felt Building, Salt Lake City, any news of value to medical readers before the 12th of each month. We are hoping that some will respond in the spirit in which this request is made. We cannot print the news unless we have it. We've done the best we could by clippings and reports gained in roundabout ways. But our task would be simplified immensely, and the results would be far better if a brief resumé could be forwarded to us for our use. Won't the various societies please co-operate?

GUERILLA WARFARE

About the only consistent thing about mankind is its consistent inconsistency. If you'll think that dictum over you'll agree with it perforce. And the worst of it is that it applies no less to the doctors than it does to the man in the street. We may rave about the dumb foolishness of our patients, but they have little on us when it comes to the way we conduct ourselves. And one of the worst bits of inconsistency, one of the most hurtful examples of this tendency, is manifested in the instances of gratuitous criticism of one another in which a few of our profession indulge.

We hold that to be able to criticize *anything,* the one who undertakes the critical task must know something abut the subject under discussion. To put it baldly, he must know what he is talking about. This would presuppose that he be grounded in the elements of the situation, have a complete knowledge of the circumstances, incidents ,and details which resulted in bringing about the condition concerning which he gratuitously appoints himself a judge. How can he intelligently or justly evaluate the situation without? Yet how often do we meet instances of a physician seeking to criticize the work of another member of the same profession without any such fundamental groundwork of knowledge.

It appears to us more and more that such men are either deliberately indifferent to the principle of fairness, actuated by some petty feeling of personal spite, moved by an egotism sufficient to blind them to true proportions as affecting others, or else just simply hopelessly ignorant. In explanation of the last statement let us point out that the ignorant man is generally the surest in his assumption of knowledge, and the better-informed individual is one who hesitates longest in the assumption of infallibility as a characteristic of his own.

And yet criticism, unless well deserved, unless based upon the very best of knowledge, and then called for by circumstances making it practically obligatory, is one of the most foolish performances from a professional standpoint in which the doctor can indulge. Because criticism hurts the man criticized in a measure, hurts the man who criticises, in the esteem of his fellows, and possibly otherwise, and hurts the standing of the entire profession with the public rather more than any other one thing. For in the mind of the laity, if the profession doesn't know its stuff, then wherein is the profession any better than the cults? And any man who is guilty

of throwing doubt against the very art which he professes to practice is certainly guilty of a very foolish action, if nothing worse. Heaven knows, with the best we are able to do through the most sincere endeavor, we in our own hearts may yet find enough over which to criticize ourselves. So why in the name of common everyday intelligence should we seek to broadcast the possible shortcomings of our craft for the petty and puerile pap of a few minutes of self-shining in the eyes of some totally uninformed person with the light of an assumed brilliance which we seek to seem to possess? For even here there is a danger that, unless we are deadly sure of our ground, future events will prove that our brilliance was rather the *ignis fatuus*—fox fire of rotten misinformation, than something grounded on a full and true knowledge of the facts. And when that happens our little temporary illumination is very apt to go out.

And so as we have preached before, we are preaching again: Let's play the game as gentlemen. Let's develop an *esprit d'corps*—a sort of stick togetherativeness. Let's do the best we can with a full realization that we may make errors and mistakes, despite our sincerest efforts to avoid them, and that the other fellow may perchance do the same thing and eat his heart out in secret over them. Let's be broadminded enough to credit him with sincerity of endeavor the same as ourselves, rather than damn him for his errors, while speaking only of the successes which have crowned our own efforts. Let's have *sense* enough to know that every criticism of the work of another member of our profession, voiced in the ears of one who knows nothing of our work, its obstacles, difficulties and heartbreaking failures, and who judges us solely upon the basis of our end results, is a direct blow aimed at the very thing upon which the success and advancement of medicine as an art depends—at the average man's confidence—the trust, the faith he feels in the doctor. Criticism is of two sorts—constructive and destructive. Constructive criticism may build up, but gratuitous, undeserved or improperly grounded criticism *destroys*. The practice of medicine should be a "gentleman's game." Let's play it as such. Don't let's engage in this guerilla warfare of criticism behind the other fellow's back. That is the coward's trick.

Utah News—September 20 saw the resumption of meetings by the Holy Cross Clinical Association for the winter months. The meeting was held in the auditorium of the Holy Cross Hospital with a good attendance, President Peterson presiding. Barnard and Pugh presented a case of endocarditis; Bailey, an interesting problem in diagnosis between actinomycosis and tularemia; and Minear, a case of perinephritic abscess. Meetings begin promptly at 8 o'clock and end about 9:30. Members are invited to present interesting cases and to invite friends.

During the past month F. M. McHugh and Mrs. McHugh returned from Europe, where the doctor has been pursuing a course of special work in his specialty during the past four months. Most of their time was spent in Vienna.

E. G. Hughes and family have gone to Long Beach, California. Doctor Hughes will study in the coast universities while away.

The Editor left October 4 for a trip in the East. While absent he will visit New York, Philadelphia, and Chicago. At the latter city he will attend the convention of the American College of Physical Therapy.

Utah still leads the United States in the per capita enrollment of medical men in the Officers' Reserve Corps, U. S. A. Now that October is upon us and the correspondence courses are once more being started, we would like to appeal to every reserve officer to sign up for one of these courses. The reserve can only be as good as the men composing it, and the man can only be as good as his knowledge permits. Fall in! Sign up! For information write Headquarters 104th Division, Vermont Building, Salt Lake.

Salt Lake County Medical Society (M. M. Critchlow, secretary)—A regular meeting of the Society was held at the Commercial Club, Salt Lake City, September 27, 1926, President F. H. Raley presiding. Fifty-six members and four visitors were present.

Minutes of the previous meeting were read and accepted without correction.

F. F. Hatch presented a patient on whom he had operated for diverticulum of the bladder which had been present since infancy. The operation included transplantation of the ureter which ran into the diverticulum, and excellent result was obtained.

J. F. Sharp talked on "Extra Uterine Pregnancy." He described the etiology, pathology, symptoms, diagnosis before and after rupture, the differential diagnosis and the treatment. He illustrated his points with many examples from his own practice and gave a very interesting discussion of the résumé, which was discussed by H. S. Scott, Ray Woolsey, L. C. Stevenson, A. Lipkis, A. A. Kerr, and John Z. Brown.

C. J. Pearsall talked about eczema. He gave an excellent discussion of the various types and presented the diagnostic points between eczema and dermatitis venata, seborrhoic dermatitis, infectious dermatitis, scabies, lichen planus, ringworm, syphilis, mycosis fungoide, peripsoriasis, and psoriasis. Discussion by William L. Rich.

Applications of C. W. Countryman and E. P. Oldham were voted upon and both were elected to membership, twenty-six votes being cast.

Meeting of October 11, 1926—Held at the L. D. S. Salt Lake City, President Raley presiding. Fifty members and five visitors present.

Minutes of the previous meeting were read and accepted without correction.

The scientific program was arranged by the hospital staff. The cases were well worked up and very interesting. The following clinical cases were presented and discussed:

"Shotgun Wound of the Foot," John Z. Brown; "Possible Chronic Tularemia," H. T. Anderson; "Possible Substernal Goiter," Henry Raile; "Stone in the Bladder in a Patient with Congenital Heart Disease," F. A. Goeltz, G. G. Richards, and Doctor Leigh; "Possible Addison's Disease," Clark Young; "Probable Tuberculous Epididymitis," O. J. LaBarge.

Communication from H. T. Fischer regarding the tour of Dr. Franz Nagelschmidt of Berlin was read.

NEVADA STATE MEDICAL ASSOCIATION

W. L. SAMUELS, M. D., Reno.....President
HORACE J. BROWN, M. D., Reno.....
.....Secretary and Associate Editor for Nevada

Officers elected at the Twenty-third Annual Session of the State Medical Association were as follows:

President, W. L. Samuels, Reno; first vice-president, R. R. Craig, Tonopah; second vice-president, William H. Riley, Gold Hill; secretary-treasurer, Horace J. Brown, Reno. Trustee for two years, D. A. Turner, Reno. Trustee for one year, S. K. Morrison, Reno. Delegate to A. M. A., Horace J. Brown, Reno. Alternate, C. E. Piersall, Reno.

The minutes have not been received in time for publication in this issue, but will appear in the December number. Part at least of the papers presented at the meeting will be published during the coming months.

READERS' FORUM

San Francisco, October 8, 1926.

Dear Editor—Pardon my bothering you about a trivial matter, but I wanted to call your attention to a change (apparently an editorial correction) in one sentence of my contribution to "Bedside Medicine for Bedside Doctors" in the October issue, which makes its meaning somewhat ambiguous.

The sentence in the manuscript reads as follows: "Having used inunctions and insoluble intramuscular injections of mercury for years, I never expect to employ either of them again." Then follows a recommendation of intravenous novasurol. The above sentence, as published, reads as follows: "I have ceased employing insoluble intramuscular injections, and I never expect to employ either of them again." Note that the phrase "either of them," referring to two methods of administering mercury, becomes meaningless in the amended sentence. I regret that the reference to inunctions was not retained, as many men consider them more efficacious than intramuscular injections, and I wished to emphasize the fact that I consider intravenous novasurol better than either one of these. My main objection, however, is to the possible confusion resulting from the present wording. I am almost tempted to ask that a "correction item" be inserted in the next issue.

One other thing: In the footnote about me at the bottom of the same page the impression is given that Dr. H. K. Faber collaborated with me in writing my second paper on Congenital Syphilis. As a matter of fact, it was the paper on "Leishmaniasis" that Doctor Faber and I published together in the A. M. A. Perhaps this change can be made in your files.

HERMANN SCHUSSLER, JR.

FUTURE MEDICAL MEETINGS

All Western medical and health agency organizations are invited to keep California and Western Medicine supplied with the dates, names and addresses of executive officers of coming meetings for insertion in this directory.

American Medical Association, Washington, D. C., May 16-20, 1927. Olin West, Chicago, Secretary and General Manager.

California Medical Association, Los Angeles, April 25-28, 1927. Emma W. Pope, Balboa Building, Secretary.

Nevada Medical Association, ———. Horace J. Brown, Reno, Secretary.

Utah Medical Association, Salt Lake City, ———. Frank B. Steele, Salt Lake City, Secretary.

Pacific Coast Surgical Association, Del Monte, February, 1927. Edgar L. Gilcreest, San Francisco, Secretary.

Pacific Northwest Medical Association, ———. Frederick Epplen, Spokane, Secretary.

Pacific Coast Oto-Ophthalmological Society, San Francisco, ———. Kaspar Pischel, San Francisco, President.

Northern California Medical Association, Woodland, ———. John D. Lawson, Woodland, Secretary.

Southern California Medical Association, Los Angeles, November 5 and 6, 1926. C. T. Sturgeon, 1136 West Sixth Street, Los Angeles, Secretary.

Medical Women's National Association, Washington, D. C., ———. Maud Parker, Medical and Dental Building, Seattle, Washington, Secretary.

Western Branch American Urological Association, Portland, Seattle, and Vancouver, July 5, 6, 7, 1927. Wirt B. Dakin, Los Angeles, Secretary.

The conviction that has been forced upon me by a lifetime devoted to invalids is that if the world were purged of fear, practicing physicians would be comparatively idle, and medical fakers would be distressingly lonesome. When it shall be realized that we throw fear into children as a stoker throws coal into a locomotive firebox, and that we begin to do it as soon as they betray the first glimmer of intelligence, and keep it up until they escape from parental influence, we see how tremendous are the difficulties attending the prevention of fear.—Joseph Collins, Dearborn Independent.

The following graduates of medical colleges passed the physicians and surgeons' examination given in San Francisco, July 12-15, 1926. The figures show percentages obtained:

Dorothy May Allen, Oakland, 80 4/9; Theodore L. Althausen, San Francisco, 85 3/9; Boris Aronvitch, Los Angeles, 82; Suren H. Babington, Berkeley, 78 8/9; Louis Baltimore, Hollywood, 83; Alexander G. Bartlett, San Francisco, 85 5/9; Charles H. Beasley, San Francisco, 83 5/9; Augustus C. Beattie, San Francisco, 87 6/9; Arthur H. Beede, San Francisco, 84 1/9; Hobart D. Belknap, San Francisco, 79 4/9; Dudley W. Bennett, San Francisco, 89 1/9; Clifford O. Bishop, San Francisco, 85; Coleman A. Block, San Francisco, 82 7/9; Aberhardt C. Bost, San Francisco, 83 4/9; Frederic C. Bost, San Francisco, 85 1/9; Carl B. Bowen, San Francisco, 78 5/9; Robert T. Boyd, San Francisco, 84 1/9; Isabel P. Brier, Berkeley, 84 4/9; Monica S. Briner, San Francisco, 85 2/9; Paul R. Brust, San Diego, 84; Frederick C. Bugbee, San Francisco, 83 4/9; Robert Bulman, Westwood, 89 3/9; Patrick J. Byrne, French Camp, 83 2/9; Margaret E. Carlsmith, San Francisco, 84 4/9; Clifford M. Carlson, San Francisco, 81 7/9; Eduardo M. Castro, Los Angeles, 75 2/9; Henry D. Coles, Chicago, Illinois, 91 3/9; William C. Cooke, San Diego, 86 1/9; Edward F. F. Copp, La Jolla, 79 8/9; Herbert D. Crall, San Francisco, 85 1/9; Fritz J. Cramer, San Francisco, 84; Harold E. Crowe, Long Beach, 87 7/9; Lawrence R. Custer, San Francisco, 83 4/9; Donald A. Dallas, San Francisco, 82 5/9; Anna C. Danneman, Orange, 79 3/9; John M. Dodd, San Francisco, 79 6/9; Dave F. Dozier, San Francisco, 86 4/9; Chelsea D. Eaton, Oakland, 81 1/9; Paul M. Ellwood, Berkeley, 78 3/9; Lynn W. Elston, Fort Wayne, Indiana, 93 3/9; Sigrid A. Esbern, Los Angeles, 77; Leland M. Evans, Berkeley, 83 6/9; L. Ray Faubion, Ontario, 78 3/9; James L. Faulkner, San Francisco, 83 6/9; Robbin E. Fisher, Portland, Oregon, 83 4/9; Charles F. Flower, San Francisco, 86 4/9; Donald C. Fowler, San Francisco, 85 4/9; William O. French, Jr., San Francisco, 82 2/9; Leslie Freudenthal, Los Gatos, 82 5/9; Harold G. Gentry, San Francisco, 85 8/9; Samuel Glassman, Los Angeles, 78 7/9; Eugene C. Grau, San Francisco, 82 3/9; Ursula A. Greenshaw, San Francisco, 85 2/9; Wales A. Haas, Piedmont, 77 3/9; Cameron Haight, Stockton, 88 8/9; John T. Harrington, San Francisco, 77 2/9; J. Lawrence H. Hawkins, Jr., Exeter, 82 2/9; Charles T. Hayden, Oakland, 81 7/9; Archie W. Henry, San Leandro, 85 5/9; William P. Holbrook, San Francisco, 80; Owen H. Homme, Los Angeles, 82 8/9; Leland G. Hunnicutt, San Francisco, 79 7/9; Herbert A. Huntington, San Francisco, 78 6/9; Herbert W. Hyatt, Los Angeles, 84; Lawrence R. Jacobus, San Francisco, 85 1/9; Harold S. Johnson, Los Angeles, 79 7/9; Russell H. Kaufman, San Francisco, 83 5/9; John A. Kelleher, San Francisco, 82 4/9; John O. Kellogg, San Diego, 81 8/9; Wilbur E. Kellum, Modesto, 79 6/9; Vernon F. Kennedy, Represa, 76 5/9; Eugene W. Kenney, Sacramento, 76 8/9; William F. Kroener, Whittier, 87 1/9; Louis Lackner, San Jose, 82 4/9; Albert L. I. Leveton, San Francisco, 86 3/9; Joseph Levitin, San Francisco, 84 8/9; Angus C. McDonald, Los Angeles, 87 2/9; Margaret K. Mah, Berkeley, 81 3/9; Harold P. Maloney, Oakland, 85; William F. Manuel, San Francisco, 86; Chester Marsh, San Francisco, 86 2/9; Oscar C. Marshall, Watsonville, 87 5/9; Sergei V. Martchenko, Long Beach, 76; James L. Maupin, Jr., San Francisco, 80 6/9; John A. Merrill, San Francisco, 82 3/9; Stacy R. Mettler, San Francisco, 84; Warner D. Meyenberg, Salinas, 82 3/9; William F. Meyer, San Diego, 73 3/9 + 14% 87 3/9; Edith M. Meyers, Alameda, 81; Newton Miller, Salt Lake City, Utah, 78 6/9 + 2% 80 6/9; Raymond J. Millzner, Oakland, 80 6/9; Lewis F. Morrison, San Francisco, 82 8/9; Chester A. Moyle, Modesto, 77 2/9; Edgar J. Munter, San Francisco, 86 4/9; Henry D. Neufeld, Oroville, 79 4/9; Howard E. Newson, San Francisco, 78 3/9; John J. O'Connor, San Francisco, 79 1/9; Clyde J. Osborne, San Diego, 81; Benjamin H. Page, San Mateo, 79 6/9; Samuel L. Perzik, Los Angeles, 87 1/9; Albert Peterson, San Francisco, 75 2/9; Fred A. Polesky, San Francisco, 80 8/9; Pearl S. Pouppirt, Palo Alto, 81 7/9; Marcus H. Rabwin, Los Angeles, 84 3/9; William H. Rambo, Los Angeles, 76; Thomas H. Reiss, Fresno, 85 6/9; Philip A. Reynolds, Los Angeles, 81 1/9; Peter Riccardi, Los Angeles, 85 6/9; Gilbert P. Robinson, Los Angeles, 81 3/9; William L. Rogers, San Francisco, 87 4/9; Joseph S. Rubin, San Francisco, 81 1/9; Charles V. Rugh, Klamath Falls, Oregon, 84 1/9; Frederick K. Sauer, Milwaukee, Wisconsin, 82 6/9; Raymond R. Scott, San Francisco, 86 6/9; Virgil D. Sedgwick, San Francisco, 83 8/9; Samuel Shore, San Francisco, 82 3/9; Harry Singer, Los Angeles, 81 2/9; Margaret Sisson, Oakland, 83 3/9; Edward A. Skaletar, Los Angeles, 80; Pearl M. Smith, San Francisco, 81 3/9; Douglas D. Stafford, Alameda, 87 2/9; Walter L. Stevens, Los Angeles, 76 3/9; Homer P. Struble, San Francisco, 86; Paul E. Suehs, San Francisco, 83 6/9; Cletus S. Sullivan, Santa Clara, 83 6/9; Walter J. Sullivan, Los Angeles, 82 3/9; Joseph P. Szukalski, San Francisco, 84 8/9; Leland H. Taylor, Pacific Grove, 82 6/9; Sidney D. Thomason, Los Angeles, 79 3/9; Milton W. Thorpe, San Francisco, 85 1/9; Elizabeth W. Tock, Talmage, 86 4/9; Rafael M. Valenzuela, San Francisco, 82 7/9; William R. Vizzard, San Francisco, 80 4/9; Hugo O. Wagner, Mare Island, 76 1/9; Frederic Waitzfelder, Los Angeles, 73 1/9 + 4% 77 1/9; Karl F. Weiss, San Francisco, 86 4/9; Jesse H. West, San Francisco, 76 7/9; Leslie S. Whitaker, San Jose, 76; William D. Wightman, Los Angeles, 76 5/9; Dwight L. Wilbur, Stanford University, 88 5/9; William F. Williams, Oakland, 81 4/9; Shirley D. Wimmer, San Francisco, 80 5/9; Nelson A. Young, Venice, 78 5/9; Eugene Ziskind, Los Angeles, 89 2/9.

MEDICAL AND HEALTH AGENCY NEWS

The monthly staff meeting of the Franklin Hospital Clinical Society was held on Monday, September 27, 1926, in the assembly room of the hospital. Members of the staff present were Irving S. Ingber, Ernst Gehrels, Harry E. Alderson, Carl Werner, Christie Peters, and George Becker.

After a brief business meeting clinical papers were heard by a large audience of visiting physicians. George Warren Pierce presented the following program: "Advances in Plastic Surgery." Demonstration of Case Results with Lantern Slides. "Demonstration of Operative Technique with Moving Pictures," after which many questions were answered by Pierce, showing the interest the profession at large has in plastic surgery. Again the motion-picture machine exhibited how useful it can be in clarifying many technical steps.

The second paper was by Ernst Gehrels, "Management of Cancer of the Rectum and Pelvic Colon with Demonstration of Cases," in which various operations for this condition were described and discussed. Some remarkable results were demonstrated, and physicians were urged to remember that this condition is not hopeless, and to advise and hasten early operative procedure because the statistics show a high percentage of recoveries in patients where early extirpation is employed.

M. S. Wolf presented his impressions resulting from his recent tour of the British medical centers.

At the conclusion of the meeting refreshments were served in the hospital.

An interesting illustration of the progress of women in medicine is indicated by the accompanying picture of the young women interns and resident staff of the Children's Hospital, San Francisco, with the director of the hospital.

This splendid hospital of 275 beds is one of the few institutions in which all patients are women and children; all interns and resident staff are women, and a majority of the visiting staff are women physicians. The far-reaching influence of this educational and health-serving hospital is indicated by the wide geographical distribution of the young women who seek their intern service there. Reading from left to right they are:

Ethel Barrow, Liverpool University; Charlotte A. Boehm, College Medical Evangelist, Los Angeles; Beryl H. Blake, University Colorado, Denver; Miriam Roskin, Liverpool University; Adena C. Dutton, University of Oklahoma; Rachel Ash, Woman's Medical College, Philadelphia; Jessie M. Bierman, Rush Medical College, Chicago; Mildred T. Squires, Woman's Medical College, Philadelphia; Harriet I. Skemp, University Iowa; Pearl V. Matthieu, Kansas University Medical School; Ruth A. Nethercut, assistant resident, Stanford University, San Francisco; Margaret C. Malone, Kings College Hospital, London; Ruth Garten, Stanford University, San Francisco; Bonnybel A. Hall, resident, University Iowa; James B. Cutter, medical director, New York Hospital, 1895.

Saint Joseph's Hospital staff, San Francisco, met October 13, A. S. Musante presiding, and heard G. D. Schoonmaker discuss "Latest Methods in Gall Bladder Treatment." Duodenal tube therapy, diet and surgical procedures were outlined.

V. P. Mulligan spoke on "Management of Mental, Drug and Alcoholic Cases," concluding as follows:

"An early diagnosis is of great importance in mental disease patients, for in the beginning they may have symptoms of neurasthenia. Those with paresis and maniacal depressive psychoses are given to making poor business ventures, and an early diagnosis may save the family fortune. As there are many borderline and mixed cases, they should be under observation. If a patient refuses to go to a sanatorium, he should be sent to the Detention Hospital, where the court will determine his sanity. No one has the legal right to force a patient into a sanatorium. Never sign a warrant of insanity unless you have a complaint against the alleged insane patient. They are apt to be declared sane by a jury and then sue the party signing the complaint. If a patient is suffering from a chronic phychosis, it is advisable to commit him to a state hospital, as it takes years for recovery—if ever. Patients with senile and arteriosclerotic psychoses are usually harmless and may be cared for at home. Many live but a short time. Those suffering from a toxic psychosis, produced by drugs or alcohol, usually recover in a short time and can be cared for in a private sanatorium. This latter class also includes the psychoneuroses, the infection exhaustion and traumatic psychoses; also the psychoses associated with other diseases."

The program of November 10 follows:

"Early Signs of Cancer," Alson R. Kilgore; "X-ray and Radium in Uterine Carcinoma," W. E. Chamberlain; and "Demonstration of Rectal Cancer Cases," Ernst Gehrels.

Saint Luke's Hospital Clinical Club resumed its meetings Thursday, October 7, Howard H. Johnson presiding.

J. Marion Read discussed the subject of Graves' disease, calling attention to the relatively small progress that has been made in unraveling its etiology and pathogenesis. He preferred this term (Graves' disease) to designate the thyrotoxic syndrome, known also as exophthalmic goiter, and by other names. All the therapeutic procedures of the past based upon theories of pathogenesis have proved unsatisfactory, although by the employment of symptomatic treatment a large percentage of these patients recover. This disease seems not to differ from most others in that there is an irreducible minimum of mortality, a large percentage who recover, and a certain percentage of patients who become chronic sufferers. Because of spontaneous cure and a course marked by exacerbations and remissions, evaluation of therapy is exceedingly difficult, and many of the ideas as to the value of various therapeutic procedures become misleading on account of the "post hoc ergo propter hoc" fallacy.

Two case histories were shown illustrating the course of the disease and the results of surgical and nonsurgical treatment.

Doctor Read's remarks, which were characterized by the chairman as a careful, thorough, scientific presentation, were followed by general discussion from both medical and surgical points of view. Clement H. Arnold noted as a point of interest that many diseases that were ascribed to a psychogenic state or origin have now been found to be a part of a thyroid condition; also, as a matter of treatment, that it had been recently discovered that thyroxin is not the equivalent of desiccated thyroid gland. The feeding of the gland is better than the administration of thyroxin.

Doctor Castelhun dwelt on the importance of the time element in treatment. His experience had been that in spite of good surgery, many had shown little improvement, a result that showed the importance of not hastening into radical steps based upon some theory of etiology.

From the x-ray point of view, John Rehfisch made a plea for more conservative methods, stating that a large proportion of patients treated with x-ray come in with scars on their necks which have been given them by perfectly efficient surgery. He stated as his belief that if

conservative methods are used, 80 to 90 per cent will not need more radical treatment.

Speaking as a surgeon, Brooks expressed his belief that, aside from the old school who treated all thyroids with surgery, the average goiter patient gets a combined treatment-rest, iodin, x-ray, and then sometimes surgery. He spoke of the difficulty of deciding just which patient should have iodin and also the danger of iodin therapy leading the doctor to a false security in operating before the patient is in good condition. He closed his remarks with the presentation of a recent patient upon whom subthyroidectomy had been done and who was now back at his work and gaining weight. Iodin apparently made him worse.

Read closed the discussion with the statement that, while we know very definitely the relationship between hyperplasia and iodin, we do not know how iodin reduces the toxicity in some patients, but we do know that this effect is obtained in spite of many statements in literature as to how much harm iodin does. Some may not act well with iodin, but this cannot be attributed with certainty to iodin. We are on safe ground in giving iodin to any patient with a hyperplastic goiter, and it is a fact that some patients with adenoma do well on iodin, as was demonstrated in a recent patient of his own in whom iodin was given preoperatively.

The purpose of the Tuesday morning clinical-pathological meetings of the Mount Zion Hospital staff is to critically review the deaths that have occurred in the hospital, and to discuss any other subject of interest to the staff.

L. I. Breitstein discussed the subject of sterility in women. He is impressed with the apparent increase in the last twenty years of the incidence of sterility, and believes that as high as 20 per cent of married women are sterile. He has noted as the two main causes of sterility, infections due to an induction of abortion resulting in an endometritis and occlusion of the tubes, and gonorrhea.

He outlined his routine procedure as follows:

Examination of the vaginal contents within an hour after intercourse. If there is an absence of motile spermatozoon the husband is referred to a urologist. The reaction of the vaginal secretion is taken with litmus paper, as is also the secretion from the cervical canal. The condition of the cervix, uterus, and ednexa is carefully noted. If the examination up to this point is normal the woman is referred for the Rubin's procedure.

Franklin I. Harris outlined the technique of the Rubin's procedure. He stated that carbon dioxide is the preferable gas to use because of its rapid absorption from the peritoneum, usually disappearing from fifteen to twenty minutes where as oxygen takes one to three hours and air one to twenty-four hours. The insufflation of the fallopian tubes is practically without danger, and is done with very little pain or inconvenience to the patient. There are several contraindications, however, which must be carefully observed, namely, acute pelvic inflammatory disease or any cardiac or renal trouble. The preferable time for the procedure is from five to ten days after the menstrual cessation. The diagnostic value of this procedure is absolute insofar as the patency of the fallopian tubes is concerned, and in addition it has a small but definite therapeutic value, as it has been found that in 10 to 15 per cent of the patients pregnancy results following the insufflation of the tubes. In patients in whom the tubes are shown to be occluded by the Rubin's procedure, visualization is attempted by the injection of 5 to 10 ccs. lipiodol into the uterus through the cervical canal. By this means it has been possible to visualize exactly the nature of the obstruction in the tube and determine the advisability of operative interference.

Mast Wolfsohn confirmed the value of the Rubin's procedure as a diagnostic and therapeutic measure, but stated that the indiscriminate use of lipiodol in visualizing the pelvic organs might defeat the purpose of the investigation by causing an occlusion of the tubes from the lipiodol itself. He also reported having read of two patients of air embolism following the insufflation of the tubes.

A case of acute fulminating eclampsia was presented for discussion. Patient had been under routine observation during pregnancy. At final examination in the doctor's office she showed a marked increase in weight over the previous month and a heavy trace of albumin. Hospitalization was advised. Shortly after admission patient developed a chill, and temperature arose to 40.2. Urinalysis showed three plus albumin and a number of pus cells. There was a leucocytosis of 17,000 with 77 per cent polymorphonuclears. Blood pressure, 135/65. Symptoms of toxemia continued with a rise in pulse, temperature and respiration, and fifteen hours after admission to hospital a dead full-term fetus was extracted by forceps. Within two hours after delivery patient had her first and terminal convulsion.

A. Nahman enumerating the causes of sudden postpartum deaths as being due to (1) rupture of uterus, (2) hemorrhage, (3) embolus, and (4) eclampsia, felt that this particular case belonged to the acute eclamptic toxemia class.

L. I. Breitstein in discussion emphasized the significance of a sudden increase in weight at term as a danger signal to the physician of an impending toxemia and fetal death.

R. K. Smith advocated combating acidosis of this toxemia as determined by carbon dioxide estimation by large doses of 50 per cent glucose intravenously, gastric lavage with bicarbonate of soda solution and emptying the uterus by Caesarean section. His mortality up to three years ago was 8 per cent compared with the best mortality rate by other methods of 17 per cent, and during the last three years, with perfection in technique, he has lost only one patient from eclampsia.

A case of primary peritonitis confirmed by operative findings was presented for discussion. Charles G. Levison, although recognizing the existence of the clinical picture known as primary peritonitis, stated that if surgical intervention had taken place one should never feel satisfied with this diagnosis until thorough examination of every possible focus in the abdomen has been made. In particular he stated that there is great danger of overlooking a pin-hole perforation of the stomach which is temporarily covered over by a fibrinous exudate.

Fred Firestone pointed out that primary peritonitis should be treated medically, as it is a part of an acute systemic infection caused by pneumococcus, streptococcus and influenza, measles and scarlet fever. Surgical intervention increases the mortality.

Harold Brunn agreed that conservative treatment is indicated, but stated that the great difficulty was in making an exact diagnosis of primary peritonitis. He suggested the procedure recommended by Neuhof of performing an exploratory abdominal puncture with smear and culture of the peritoneal secretion thus obtained.

E. R. Olsen gave a resumé of the published clinical and experimental reports on the value of thoracic duct drainage in peritonitis. From these reports he concludes that there is little value attached to this procedure. The essential thing in the treatment of peritonitis lies in the treatment of complicating intestinal obstruction for which ileocolostomy is advised.

Prominent physicians and other citizens are well advanced in an effort to secure another much needed hospital for the people of Napa, California.

A good, well-conducted hospital is as much a necessity for every community center as are doctors, dentists, nurses.

The western branch of the American Urological Association is to be held in Portland, Seattle, and Vancouver, July 5, 6, 7, 1927.

President, Louis Clive Jacobs, San Francisco; vice-president, Anders Peterson, Los Angeles; secretary, Wirt B. Dakin, Los Angeles; treasurer, William E. Stevens, San Francisco.

In these days of rapid, easy and comparatively inexpensive transportation, one physician's patients today are likely to be another's tomorrow. This is particularly true of persons with chronic ailments and such diseases as tuberculosis. California's justly famed climate and

other attractions is producing a growing immigration of such citizens from other states and their frequent changes of location within the state.

Many of them have the intelligence to secure letters from one doctor and one institution to another, and it often happens that distant doctors recommend to their patients California institutions and physicians selected from the advertising pages of CALIFORNIA AND WESTERN MEDICINE.

Thus the value to doctors, hospitals, and other health agencies, of ethical notices in the columns of the magazine owned and published by the California Medical Association.

As this is written, the editor has before him a telegram from a doctor in a great eastern city asking which of the several tuberculosis sanitariums advertised in our columns is best adapted for a wealthy and discriminating patient about to start for California. This is by no means an infrequent occurrence. Doctors and other ethical medical agencies are learning more and more the value of looking to ethical medical publications for reliable information to pass on to patients who are going into territory beyond their doctor's familiarity with conditions, institutions, and men.

Thus one far from insignificant value of ethical appeals by doctors and institutions who wish patients from more than local sources.

Most of the better class sanitariums for tuberculosis patients are listed in our advertising space to their advantage, as well as advantage to other doctors everywhere. Those so listed are:

Alum Rock Sanatorium, San Jose; Banning Sanatorium, Banning; California Sanitarium, Belmont; Colfax School for the Tuberculous, Colfax; Enloe Sanatorium, Paradise; Los Gatos Clinic, Los Gatos; Monrovia Clinic, Monrovia; Oaks Sanitarium, Los Gatos; Pottenger Sanatorium, Monrovia.

Advertising copy is accepted only from those hospitals, sanitariums and other health agencies as are approved by the Hospital Committee of the California Medical Association.

NEWS ITEMS FROM CALIFORNIA BOARD OF MEDICAL EXAMINERS

By CHARLES B. PINKHAM, M. D., *Secretary*

Walter Raleigh Anderson, M. D., on September 22, 1926, is reported to have pleaded guilty in the courts of Los Angeles to contributing to the delinquency of Gloria Delmar, a 19-year-old motion picture actress, and was sentenced by Judge McLucas to serve one year in the county jail of Los Angeles County.

The American College of Sagliftology, Corporation No. 120733, came into official existence October 4, 1926, with headquarters at San Diego. Among its purposes is to teach the theory and practice of a system of measuring and determining body contours; to teach anatomy, physiology, mensuration, and the theory and practice of sagliftology, also to grant such literary honors as are usually granted and awarded by any university, etc. Newspaper comment relates "it is not a preparatory course for judges in a bathing beauty contest," further relating that graduates will be known as "doctors of sagliftology."

According to an Associated Press Dispatch, dated Buffalo, New York, October 12, it is related "that cheap cosmetics often poison their users." Dr. S. Dana Hubbard, chairman of a Committee on Patent Medicine Supervision, Bureau of Foods and Drugs, recommended to the American Public Health Association today that proper legislation be passed governing the sale of face powders, hair dyes, lotions, creams, and freckle removers. Doctor Hubbard named lead, arsenic, mercury, wood alcohol, and coal tar dyes as drugs which have been permitted to enter into the composition of many of the preparations and which menace the health of users (San Francisco Examiner, October 13, 1926). This item is deserving of consideration in connection with any so-called beauty specialists' legislation and closely follows the recent death of Mrs. Louise Wulbers in San Francisco, following the application of a strong carbolic acid solution for face peel, mentioned in "News Items" of September and October, 1926.

A charge of manslaughter was dismissed yesterday against Dr. Zalick Saltzman by Police Judge D. S. O'Brien after the court had heard testimony in the case of Mrs. Louise Wulbers of San Jose, who died at 720 Powell Street, September 27, while she was receiving beauty treatment for the removal of wrinkles. The court dismissed the charge for lack of evidence. Several days ago the Coroner's Jury recommended legislation forbidding the use of carbolic acid in such treatment.—San Francisco Examiner, September 27, 1926.

"Philosophy and a girl's freckles mixed with absent treatment and the 'laying on of hands' when Albert Yoder went to trial before Superior Judge Lincoln S. Church in Oakland yesterday. The philosophy is Yoder's expressed by two degrees received from the Christian Philosophical Institute in the Pacific Building. The freckles are Every Lyda's." The article relates that in the summer of 1925 the complaining witness, a girl of 14, was hit in the eye with a baseball, that she went to Yoder for treatment of her eye. Yoder denied this, stating that all he did was to lay hands on the injured eye and relating that some of the treatments were absent treatments. "These were verified by a receipt for $10." He testified that he spent something less than a year of study with the Christian Philosophical Institute, which conferred upon him the degrees of Ph.D. and D.D. The Christian Philosophical Institute came into the limelight some time ago with the investigation by the authorities of "Bishop" Wilbert Cosper, founder of the institute. (See "News Items," June, 1925; March, May, June, and September, 1926.)

Authority to bring quo warranto proceedings against the Medical Service Corporation of Los Angeles to find out whether or not physicians can practice as a corporation has been given by Attorney-General U. S. Webb. . . . Webb stresses the importance of having the question settled. "The right of a corporation to engage in the practice of medicine is a question of grave importance which should be submitted to our courts for authoritative and final determination," he said. The opinion also stated that the law forbidding attorneys to enter a corporation would probably apply to physicians, as the same intimate relations of trust and confidence which exist between attorney and client also exist between physician and patient.—San Francisco Chronicle, September 25, 1926.

The San Francisco Examiner of October 6, 1926, printed a press dispatch from Oster, Ohio, October 5, relating that Edmund Gammencind, alias De Regnier, 29, wanted by the New York police in connection with alleged motion picture frauds, was arrested by the authorities of Orville, Ohio. Gammencind claims to have been a surgeon in the United States Army.

Dr. "David" Franklin of Maxwell, and well known here, accused by the State Board of Medical Examiners of practicing medicine under fraudulent credentials, was last week cited to appear before the board in Sacramento October 18 to show why his credentials should not be revoked. . . . Doctor Franklin, whose true name is said by the board to be Oscar Franklin, is alleged to have practiced over a long period of time as "Dr. David Franklin," who died many years ago in New York.—Willows Journal, September 21, 1926.

A press dispatch dated Santa Rosa, September 15, relates "Mrs. May Frick, charged with the death of Mrs. Nella Mitchell of Calistoga upon whom she is alleged to have performed an illegal operation, was arraigned today before Justice Marvin Vaugh."—San Francisco Examiner, September 16, 1926.

According to the San Francisco Examiner of October 18, 1926, David Gossard was indicted by the United States Grand Jury accused of issuing false narcotic prescriptions, the prescriptions purporting to be signed by Dr. Herbert G. Drew. The Board of Medical Examiners recently has received several complaints reporting that an individual giving his name as Dr. Herbert G. Drew would call at drug stores, unfold a brief bag and empty therefrom a stomach pump, as well as other minor articles, announcing himself as a doctor and asking the druggist if he could repair the instrument. During the con-

versation he would write a prescription for narcotics, giving a fictitious San Francisco address and a narcotic registration number issued to one of our prominent San Francisco physicians. He would request the druggist to give him the narcotic, as he was going directly to the patient's home. In some instances he succeeded in getting the narcotics, but a wide-awake San Francisco druggist, on whom he endeavored to perpetrate the scheme above mentioned, called the police and now the mythical Doctor Drew, who claims his name is David Gossard, is in the hands of the federal authorities. There is also a charge against him pending in the state court which will be pressed later.

According to an Associated Press Dispatch dated Washington, D. C., October 11, "Frank C. Hart, Portland, Oregon, convicted of violating the Mann Act in a series of journeys from Canada to San Francisco, on which he purchased a woman's railroad ticket, today was denied a review by the United States Supreme Court" (Sacramento Bee, October 11, 1926). A press dispatch dated Portland, Oregon, October 11, 1926, relates "Dr. Frank C. Hart, prominent Portland physician, probably will start serving his five-year sentence at McNeil's Island at once as the result of the action of the United States Supreme Court today in denying review of his case. Doctor Hart was convicted of violating the Mann Act here May 29, 1925."—Sacramento Bee, October 11, 1926.

David (Oscar) Franklin, Frank Hart, M. D., Edwin V. Heaton, M. D., L. T. A. Hotten, M. D., Harrison Hulse, M. D., Howard L. Moffat, M. D., Clarence J. Neilson, M. D., Newton B. Siler, M. D., Duncan E. Stewart, M. D., O. E. Werner, M. D., have all been cited to appear before the board at the meeting to be held in Sacramento commencing October 18, 1926, to show cause why their licenses should not be revoked based upon various violations of the subdivisions of Section 14 of the Medical Act.

A coroner's jury yesterday absolved Dr. M. James McGranaghan, chiropractor, of 1171 Market Street, of blame for the death of James McManus, Jr., 6 years old, who died while undergoing treatment for an affliction of the hip at the hands of Doctor McGranaghan, September 16. The chiropractor is now technically under arrest on a charge of manslaughter. . . . (San Francisco Chronicle, October 6, 1926.) Previous news items relate that it was reported McGranaghan admitted that an anesthetic had been administered to the boy to reduce a congenital hip dislocation, but before the hip could be set the boy's heart failed. Under the state law a chiropractor is not licensed to administer anesthetics.

Abraham Lair, who says that he practiced in Illinois, Mississippi, Alabama, Texas, and Oklahoma *without the formality of obtaining a license,* was recently reported arrested in Los Angeles on a charge of violation of the Medical Practice Act.

M. T. Larkin, chirothesian, on September 18, 1926, was sentenced in the Superior Court of San Diego County to pay a fine of $100 or serve thirty days in the county jail. Previous reference appears in "News Items" of June and December, 1925, also July and September, 1926.

Elmer W. Litle, M. D., was reported arrested in Los Angeles, September 22, 1926, on a charge of violation of the State Poison Law, it being alleged that he sold morphin and cocain to an operator for the Pharmacy Board for $20.

William J. Long, the holder of a certificate from the Spiritualistic Healers' Association, was reported to have pleaded guilty to a charge of violation of the Medical Practice Act in the Superior Court of Orange County at Santa Ana on July 30, 1926, and was sentenced to pay a fine of $100, which fine was paid into court by the defendant.

According to reports, J. A. McElroy, a colored janitor of Los Angeles, on September 24 paid a fine of $100 on a charge of violation of the Medical Practice Act. Our investigator relates that McElroy stated he had paid $300 for a "testimonial of merit" from the Moller College of St. Louis, Missouri, and was informed that said "testimonial" would permit him to practice in practically all of the states of the Union.

Dr. Allen I. Mann, 29, a physician, will be arraigned today in the Municipal Court on a charge of selling narcotics. The doctor, who lives at 2803 Halldale Avenue, was arrested after he was alleged to have administered drugs illegally to a young woman, according to the authorities.—Los Angeles Illustrated Daily News, September 13, 1926.

Dr. Orlando Edgar Miller, psychologist, and two others were served with a notice that F. E. Miller, local business man, had entered a suit against them for $101,000 for alleged persecution, according to the San Francisco Call of September 21, 1926.

A mysterious individual using the name of Alma Stevens Pennington, M. D., of San Francisco recently attempted to obtain a reciprocity certificate in the state of Michigan by fraud, using the credentials, etc., of the legitimate Alma S. Pennington and giving her address as Box 233, Rockville, Indiana. Although a watch was placed on this box, it is reported that the impostor has not called for her mail.

William Jules Poll, who has been a violator of the Medical Practice Act on other occasions, was on September 28 arrested and pleaded guilty in the Justice Court of Pasadena Township, paying a fine of $200 for violation of the Medical Practice Act. At the same time it was reported that he was arrested by representatives of the Pharmacy Board on a charge of violation of the State Poison Law, pleaded guilty and was fined $50. Both sentences carried an alternative jail sentence, which was suspended on condition that the defendant refrain from further violation of the law.

William Joseph Ryan, M. D., was reported arrested in Long Beach, September 30, 1926, on an embezzlement complaint issued by the District Attorney. "This case resulted from the murder last spring of F. W. McLaren by his wife Adelaide McLaren, who was recently sentenced to serve from one to ten years in San Quentin for pleading guilty to a charge of manslaughter. It seems that Doctor Ryan attended McLaren after he had been stabbed by his wife and that after the death of McLaren his brother-in-law entrusted to Doctor Ryan $3135 of McLaren's money for safekeeping and that Doctor Ryan retained $2435 of the money, claiming it was due him for professional services rendered the deceased."

Clarence E. Salter, licensed optometrist of Los Angeles, was arrested in Los Angeles September 16 on a charge of violation of the Medical Practice Act, it being alleged that he practiced beyond the limitation of his optometry license by using drugs in the treatment of a patient, according to reports of investigations.

Charged with performing an illegal operation on Miss Eva MacArthur, Charles Spencer, 70, today was arraigned before Municipal Judge Charles D. Ballard. . . . (Los Angeles Herald, October 6, 1926.) Report of our special agent relates that on April 12, 1926, he charged Spencer with violation of the Medical Practice Act after finding that he was practicing without a license though claiming to be a chiropractor; that Spencer pleaded guilty and was given a sixty-day suspended jail sentence on condition that he would not violate the law for two years. It was related that Spencer claims he practiced in Denver, Colorado, for eight years without a license.

Dr. Herbert M. Ward, a graduate of the McCormick Medical College, Chicago, and licensed as a drugless practitioner in the state of California, took his life on October 13 by a dynamite explosion at El Mirasol Sanitarium at Tujunga, California.

According to an Associated Press Dispatch dated Vancouver, British Columbia, October 2, published in the San Francisco Call the same date, Dr. Thomas Verner, 63-year-old Vancouver physician, was arrested last night and accused of murder in an information which charged that he performed an illegal operation causing the death of Mrs. Flora Graham here Thursday.

Dr. W. E. Williams, held to answer in Superior Court charged with murder as the result of the death of Miss Evelyn Taylor, was at liberty today under $5000 bond. The charge followed the death on September 11 of Miss Taylor following an alleged illegal operation which

Doctor Williams is accused of having performed.—Los Angeles Herald, October 6, 1926.

An Associated Press dispatch dated Reno, Nevada, September 13, published in the Sacramento Bee of the same date relates: "Alleging that after twenty weeks of treatment she was forced to seek other physicians and submit to x-ray examinations, Lillian M. Green has filed suit for $18,000 against Dr. G. S. Wong, Chinese practitioner. She seeks $8000 actual and $10,000 punitive damages. The plaintiff asserts she was charged $240 for the treatments."

Intravenous Administration of Sodium Chloride in Bromoderma—Paul E. Bechet, New York (Journal A. M. A., reports three cases of bromoderma that responded well to the injection of 50 and 100 cc. of decinormal sodium chloride solution intravenously, and three times a week thereafter in doses up to 100 and 220 cc., the solution being changed from decinormal to normal after the first injections.

More and more the child is being removed from the home and put outside it for care, nurture, shaping of character, developing of intelligence. At a recent conference of the Child Welfare League of America it was urged that it is the duty of the state to act as parent and that the whole tendency of state control and protection of childhood is wholesome. Through all grades of society the current sets in the same direction.—Florence Finch Kelly, Century Magazine.

I do the very best I know how; the very best I can; and I mean to keep doing so until the end. If the end brings me out all right, what is said against me won't amount to anything. If the end brings me out wrong, ten angels swearing I was right would make no difference.—Abraham Lincoln.

"The toll on the word 'please,' in telegrams sent in this country, amounts to $10,000,000 a year."

That's better medicine than 300 million for cosmetics.

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Harlan, Earl (M. D.)	676	1
Hart, Frank C. (M. D.)	676	
Heddens, Harley Hulse	389	1
Do.	676	
Heinrichs, Walter J.	819	2
Hendricks, W. J.	819	1
Hing, Chew	98	1
Hing, T. Wah	97	2
Holler, Bishop Helmuth P.	241	1
Do.	389	1
Do.	820	1
Holsman, Charles K. (M.D.)	676	1
Horton, Ray Beaman	241	1
Do.	819	2
Hotten, L. T. A. (M. D.)	676	1
Do.	819	2
Hoxide Cancer Treatment	227	
Hummel, Heinz George A. (M. D.)	676	1
Hurwitz, Leon (M. D.)	820	1
Jamison, Rollie	821	1
Johnson, George D.	240	2
Joslin, Otto C.	676	1
Kalt, Victor (D. O.)	820	1
Kansas City College of Medicine and Surgery	677	2
Kaplan, Sam	241	1
Kelso, Robert D. (M. D.)	389	1
Do.	676	1
Keeney, Homer I. (M. D.)	227	
Korr, Franklin E. (D. O., M. D.)	676	1
King, Charles J. (M. D.)	676	1
Kramolin, William	98	1
Kvello, Olaf A. (M. D.)	676	1
Leatherwood, E. A. (D. O.)	97	2
Do.	388	2
Leibman, J. A.	240	1
Levin, D. Z.	820	1
Lochman, Wm. H. (M. D.)	676	2
Loose, Christiana S.	98	1
Do.	676	2
Lord, Fred K. (M. D.)	389	1
Do.	676	2
Do.	820	1
Los Angeles College of Chiropractic	821	1
McAdory, R. J. (M. D.)	676	2
McFadden, G. W.	388	2
McGrew, Clara W. (M. D.)	676	
McKibben, Rupert E.	240	2
McLean, James A.	98	1
MacLennan, James W.	820	1
Marsh, Charles E. (Naturopath)	676	
Martin, E. B.	98	2
Marton, Jules M.	820	1
Metropolitan Medical College	240	2
Miles, Henry F. (D. O.)	820	1
Miller, Orlando Edgar	820	1
Mills, Allen (Chirothesian)	240	
Mohn, Frederick B. (M. D.)	676	
Narcotic prescription forged	675	2
Narcotic warning	100	2
Natl. Univ. of Mexico—order for fraudulent diploma	97	
Nelson, Arthur B. (M. D.)	240	1
Normalettes (Bowers' Health Foods)	821	1
Occupation License	240	1
O'Hara, T. J. (Naturopath)	240	1
Optometrists swindlers	242	2
Do.	389	1
Oriental University	241	1
Do.	821	1
Oscaloosa College	820	1
Osteopathic Examiners, see Board of		
Ott, Edwin F.	240	2
Owen, Jacob L. (M. D.)	820	2
Oxford, A. L.	97	2
Pacific Medical College	97	2
Peek, Allen	240	1
Powers, Harry James (M. D.)	98	2
Prescription for narcotics forged	675	2
Purviance, Percy (D. C.)	98	1
Do.	240	1
Do.	820	2
Ramsey, John W.	820	2
Remington, M. B.	677	1
Renwick, Robert W. (M. D.)	676	2
Richards, P. B.	388	2
Rinkler, Casper R. D. (M. D.)	240	1
Rose, John Turner (M. D.)	98	1
Russell, H. G.	240	2
Sandfort, Paul	97	
Do.	240	2
Do.	676	2
Sanipractic license	240	2
Seibert, W. P.	821	1
Seiffert, John H. (M. D.)	676	2
Shafer, W. A.	676	2
Silverberg, Arvid	677	1
Simms, Ambrose E.	676	1
Smith, G. F.	240	2
Spencer, Culver	821	1
Sprague, Norman F. (D. D.)	820	1
St. Louis College of Physicians and Surgeons	97	2
Do.	241	1
Do.	388	2
Do.	677	2
Strasser, Fred K. (M. D.)	677	1
Do.	820	2
Strayhorn, Leroy P. (M. D.)	677	1
Strole, Wm. Arthur (M. D.)	677	1
T. How Wing	389	1
Tanimoto, Masaki	821	1
Taylor, Frank	675	2
Terrillo, Anna	98	2
Thompson, Walter N.	98	1
Do.	241	1
T. Wah Hing	97	2
Universal Sanipractice College	388	2
University of Guadalajara—order for diploma	97	2
Vanderburgh, Warren W. (D. O.)	820	
Wakefield, Orin R. (M. D.)	677	1
Walker, Albert B.	677	1
Watanabe, Junsai	677	1
Webb, E. M.	240	2
Welborn, John (M. D.)	820	2
Williams, Thomas C.	821	1
Wolfsen, Ludwig (M. D.)	389	1
Do.	677	2
Y. Wong	98	1
Young, Frank P. (M. D.)	97	2
Zahn, W. F.	388	2
Zimmerman, A. A.	389	1